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Unit 704: Introduction to Transformational Grammar. Unit 705: Syntactic Relationships, Introductory Materials.

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The goal of these two seventh-grade language units is to provide some basic understanding about the structure and complexity of the English language and about the human ability to handle that language in ordinary speech situations. The first unit inductively presents a set of ordered rules which follow the conventions of modern symbolic logic and which describe grammatical relationships in English sentences in generative-transformational terms. A series of drills in terminology, simple phrase-structure operations, and notation techniques are indicated to help seventh-graders understand binary structure. Worksheets with answers, sample lecture-demonstrations, and tests are included. Introductory material for a second unit discusses syntactic relationships as flowing from the binary subject-verb relationship in the English sentence. (See TE 001 268 for a related eighth-grade grammar unit.) (JB)

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Unit 704

Introduction to Transformational Grammar

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UNIT 704 - INTRODUCTION TO TRANSFORMATIONAL GRAMMAR

PURPOSE OF THE UNIT

The grammar units for junior high school (7th, 8th, 9th grades) consist of five sequential sets of information, processes, and concepts about language from the point of view of what has been called "transformation analysis". As Owen Thomas explains in the preface to his "Language Study for Academically Talented Pupils", a pedagogical device is not the same as a scientific one. These units are not, therefore, a course in linguistics. Their goal is much lower. They are a course in basic understandings about the structure of language, specifically the English language. They presuppose a vast amount of unsystematized knowledge on the part of the student, a willingness on the part of the teacher to leave a lot of detail unexplored, and, on the part of both teacher and student, a willingness to open doors and look down corridors that one cannot travel at the moment, may never, perhaps, be able to travel. The hope is that at the end of the units corridors will be straight enough and light enough to allow one to imagine what one would find if one were to go on.

What is the goal of these units in grammar? In the broadest, most general terms, the goal is to help the student to a double appreciation--first of the complexity of the language system and second of the amazing simplicity with which our minds appear to handle language in the ordinary speech situation. This second appreciation bears on a second contrast--between the ease with which we handle language in unstructured, unpremeditated situations and the difficulty with which we make it do our work when we really have a purpose in mind; that is, when we are writing or purposely persuading, arguing, explaining, evoking, etc.

More specifically, and also, perhaps, more practically, the descriptive grammars of the 1960's seem to point the way to an earlier attack on logic in the schools. Mathematics has already pointed the way in this direction

with its insistence on a more consistent symbolic logic. This unit in grammar, then, has as its very ambitious but very practical goal, the establishment of a foundation for the study of logic. It would appear that logic, which in medieval times always followed grammar (and preceded rhetoric) ought to be conceived by the students as integrally related to his study of language. If the student's study of grammar prepares him to undertake a study of logic, it will have been well worth the time it took.

The units are structured, therefore in an attempt to elicit enough material inductively to present a set of ordered rules which (1) follow the conventions of modern symbolic logic, and (2) recapitulate the most general facts about the structure of language. Usage problems, spelling, punctuation, etc., are left to other units. Here we try to synthesize the entire system as well as lay a basis for the later refinements. A glance at the tests of this unit will show that very few concepts are taught. But the drill in terminology and notation are central to the unit. The kind of study entailed seems particularly suited for seventh grade, where students are just learning to organize their thoughts, where they are full of energy and enjoy things that go rather mechanically and still contribute to a broader synthesis of the facts they have amassed so far. I suspect, however, that children above 8th grade will find the work boring and unintelligible for the most part. They will not have the patience to undertake the necessary drill.

In addition, Unit 704, attempts to show how child language, the simplest form of language which any of us ever had experience with somehow must lay the foundation in experience of all our further language learning (people who never studied "grammar" do speak). The overstructure used in the teaching of a set of symbols used by grammarians to communicate their findings. A third overstructure is a built in rationale to the whole

process--reasons why this set of symbols is useful; why the restrictions we set up are important and viable; why anyone should want to be a grammarian, even an amateur one. It is possible that few seventh-grade students will never operate on all three of these levels. It will be sufficient if the rationale keeps them working on the notation. The restrictions will be clarified as the process continues, and the only thing really necessary for the next unit is a familiarity with terms and notations. Besides, as was said above, it is the symbolic logic of the notation and the tree-branch which will be most practical for them.

One final word about where the units are to be used. As was stated above, the units represent an ordered set of grammatical statements. It probably would not be possible to teach 803 without having first taught 704 and 705, for it presupposed both the earlier units. None of the units should be very long. In the initial stages of transferring from traditional to more modern approaches, it may be expedient to use all five units in one year, to divide them differently between two or among the three years of junior high, or to use them in senior high school. (Senior high is probably too late to late to meet with the most receptive attitudes.) The units are purposely short to allow for shifting in the curriculum. They purposely allow either high or low goals both to stimulate deeper study on the one hand and on the other to keep the study from becoming too cumbersome. Ultimately they point to a need for a similarly ordered program of practical language experience on the grade-school level, starting with kindergarten or first and continuing through sixth. And if the average and below average students like it, that will be the greatest triumph of all for modern grammar! Even if young people become interested enough in listening to little children to give them some loving attention they would not otherwise have, that will be a triumph, too!

MATERIALS NEEDED

SAMPLE LECTURE-DEMONSTRATION

The way our minds work on problems is a mystery to many of us. We tried to clear up a little of this mystery in the three units on language which we have already studied this year. We talked about relationships between words and things (referents), about level of abstraction, about subordination and superordination and about people who study language. In this unit we will pursue the problem of ordination in a little different direction, trying to make it more specific and relating it to our subject, the one we all know a great deal about--at least in practice; that is, our own language.

I suppose if one approaches language from the point of view of reading, spelling, or composition, it seems very complicated. In talking about it one hardly knows where to start. Remember Charlie's problems with language in Unit 703! So, because language is probably one of the most complicated things there is to talk about--even though it seems to be one of the easiest things to learn to use--we will try to be as simple--maybe even as simple-minded as possible. We may even find that being simple-minded is not as easy as you'd think.

Let's see now what are some means teachers, TV announcers (say weather forecasters), and advertisers use to make complex ideas more understandable? These may come in handy for our "simple" ideas.

(Drawings, diagrams, audio-visual aids, analogies, gestures, and the like)

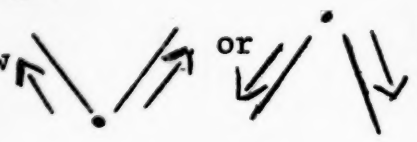
Of these means, which appears to make things the simplest?

(maps, diagrams, anything that abstracts the largest possible generalizations.)

We have seen in many of our classes and in watching TV that a diagram can make complex things very simple. Especially in the case where we have to find basic relationships among ideas which are already detailed and complex, a diagram, or map, is helpful. One of the graphic ways to show relationships comes right out of nature. It is a TREE-BRANCH DIAGRAM. A tree-branch diagram doesn't look much like a tree, but it <u>abstracts</u> from trees the quality they have of branching from a point on a trunk. The point in a tree-branch diagram where the trunk branches into two parts is called a <u>node</u>, and the two relationships or branches which come out from the node keep the name "branches". For those of you who have studied a little biology, these terms are probably already familiar. Who would volunteer to come to the board to draw the simplest possible tree-branch diagram?

TREE-BRANCH DIAGRAM

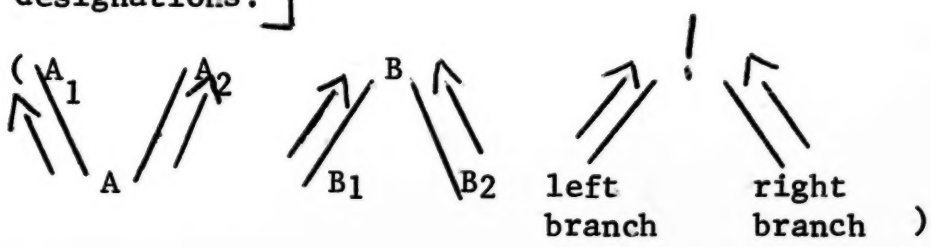
The arrows in this diagram show the direction in which the lines should be drawn.

(Somebody should be able to draw  or .

If we wished to talk about these diagrams, we would have to give names to their various parts. One way of naming them would be to put a letter or a word at each position that will be interesting or

LEFT BRANCH
RIGHT BRANCH

important to us. Another way would be to notice the position of each part of the diagram: [Ask for volunteers to figure out these symbolic designations.]



Which parts of the above diagrams are subordinate?

(A_1, A_2, B_1, B_2, left branch, right branch)

NODE

Which symbols stand for the superordinates of the diagrams?

(A, B, node 1)

Ask students to volunteer to draw longer tree-branch diagrams on the board and at their desks. Insist on a binary division at each node but not on symmetry.

Drill to be sure the procedure is grasped

In this diagram, which are the higher levels of abstraction?

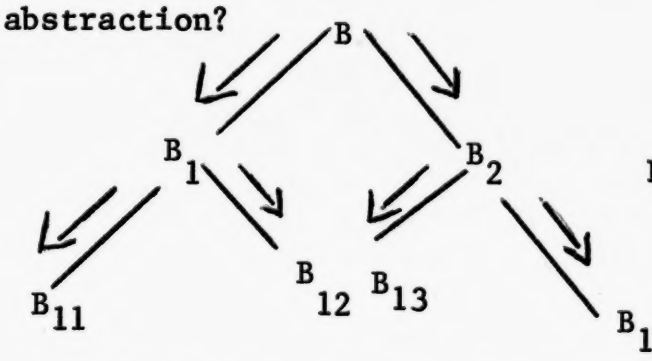


Diagram 1

Draw diagram on board or overhead projector as you talk so as to make clear the direction in which the diagram moves.

(B is higher than B_1; B_1 and B_2 are higher than B_{11} etc.)

In this diagram which are the superordinates?

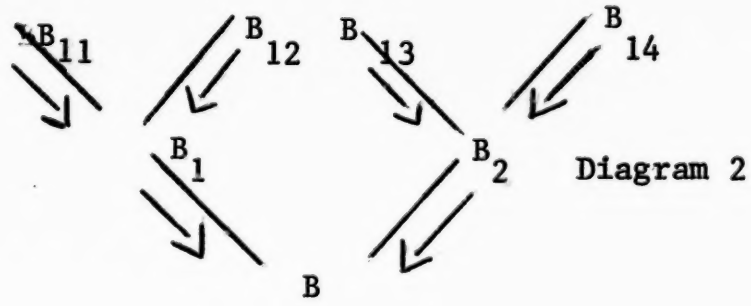


Diagram 2

(the same ones)

Is the process of starting with superordinates the same as the process ending with them?

(No. The first process is the process of subordination, the second of superordination.)

EXPANSION

REDUCTION

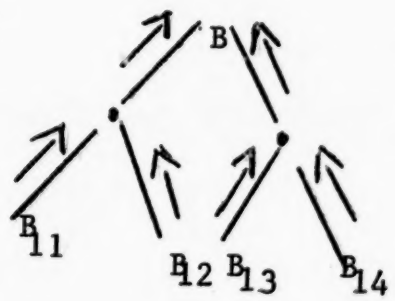
Teacher: these terms are essential to later developments.

Perhaps there is a better term than these to talk about the direction in which the process is moving, since every system has both superordinates and subordinates. These terms would refer specifically to the direction which the process was moving.

Write "expansion" alongside Diagram 1 and "reduction" alongside Diagram 2.

Now, it is certainly true that we could "reduce" by drawing the diagram up as well as by drawing it down.

ILLUSTRATE



(start here)

But in order to be scientific, we had better do what?

(Decide which way to do it and then not change)

For our purposes, then, and because many linguists have decided to do it that way, we will always draw our tree branch diagrams down. If we start with the lower levels of abstraction and diagram the superordinates afterwards, we will call the process what?

(reduction)

Point to respective diagrams and indicate the direction of abstraction.

If we start with the superordinates and diagram the subordinates or lower levels of abstraction afterwards, we will call the process what?

(expansion)

Drill by having students go to the board and draw

DRILL AT BOARD. Use, if necessary, competition "games" for speed and assurance.

diagrams down according to both patterns and say the name of the process as he draws.

There are many terms which are used to refer to the processes we have just been working with. We have been giving them a kind of symbolic designation, but the process is essentially the same one you use in, say, history class. What is that?

(outlining)

Another way would be to call it "breaking down" ideas. Still a third would be to call it "eriving" or "derivation". Could we equate both expansion and reduction with derivation?

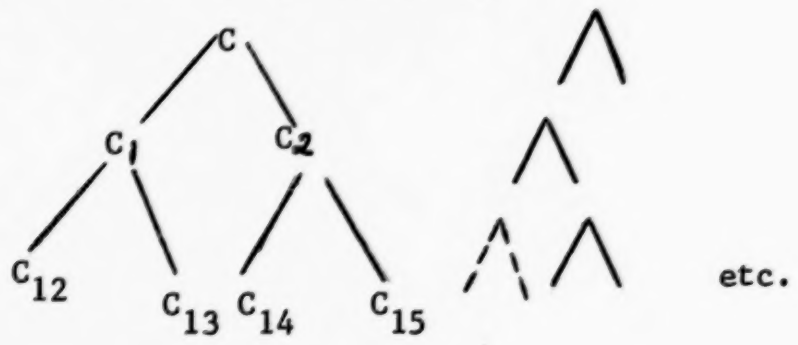
(Yes, in different senses of the word.)

TRANSITION to next definition of terms.

Correct. Derivation is a process of "bringing out" ideas that are somehow contained in a more genral idea. Derivation, then, at least in the sense expressed by a tree branch diagram, is a kind of expansion. It is not a reduction.

(Go over diagrams again to drill term "derivation". Now, draw some diagrams with the following numbers of binary branches and label all the parts.

1. Three binary branchings



etc.

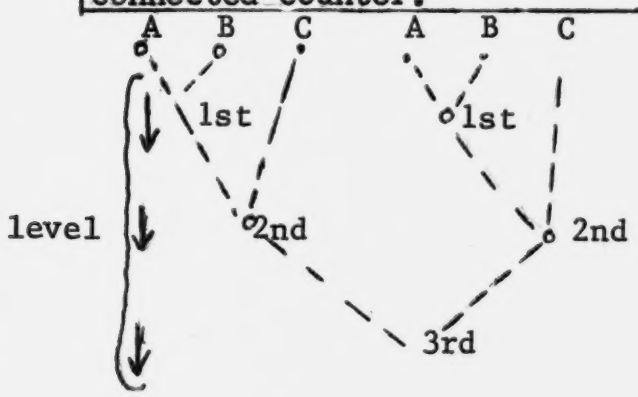
For a poor or average group this terminology could be omitted or woven into the later lessons, but a few terms are truly necessary to make it possible to talk about even the diagrams, and certainly about the processes.

If the class period is drawing to a close, it would instead probably be best to stop here and give the students a tree-branch drawing assignment.

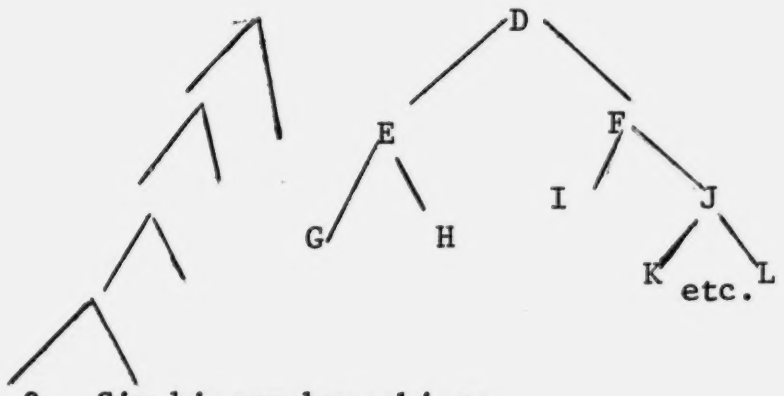
IMPORTANT

If time permits this would be better done in class.

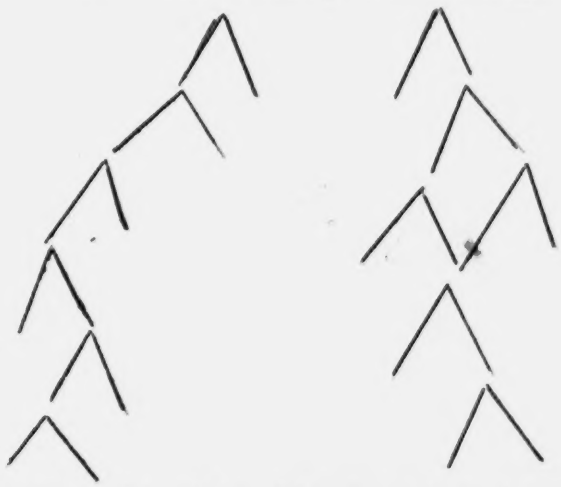
TEACHER: If students have difficulty, have them make a set of counters (torn bits of paper will do) and place them on the desk, one counter for each word in the sentence. The first counter is placed below the first set of words to be grouped binarily, etc. The second counter connects the node made by the first conjunction with the unconnected counter.



2. Four binary branchings



3. Six binary branchings



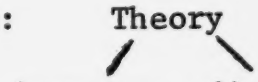
etc.

Now all this diagramming is pretty meaningless unless we see how it applies to something in our experience. To make our experience more complete, then, let us see if we can put into practice the principles of drawing relationships which we have just learned. Who can recall from Unit 701 or 702 some of the systems of subordination and superordination which we went through?

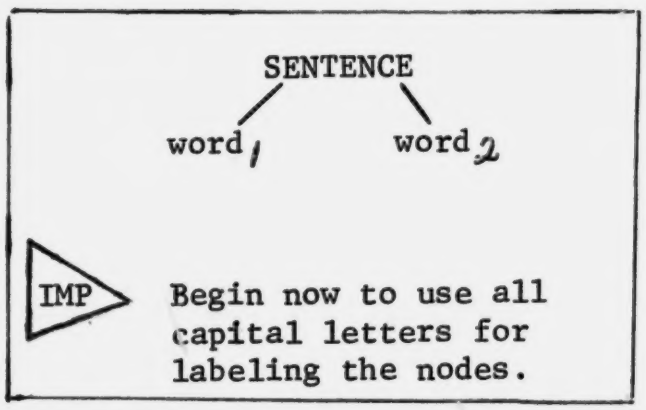
(Students should be able to recall such examples as referents (abstract and concrete); codes (hand and alphabetic); senses (hearing and seeing); communication (animal and human); time (past and present); morphemes (free and bound); arguments (valid and invalid); theories language origin (bow-wow and ding-dong); support (example and evidence and opinion); Days of the week (Monday and Tuesday); color (red and blue); state (Minnesota and Iowa); game (animals sought by hunters and a system with rules); sports (golf and fishing); etc.)

As each is set is given, diagram it on the board in the order mentioned, or have the student who gives the set diagram it.

Example:



Commend the students on the most cogent methods of labeling and commend those who experiement with both expansions and reductions.



Distribute Worksheet No. 1

SUBSCRIPT

OPTIONAL

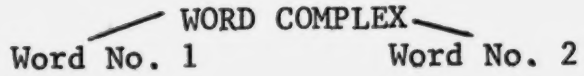
What are some elements or parts of language?

(sentence, words, phonemes, phones)

What would you do with the parts of language?

(sentence--word$_1$ and word$_2$ etc.
word--vowel and consonant sounds)

Notice that if we label the branches or nodes with subscripted letters (A_1, etc.) that the relationship is shown more clearly. If all words were alike we might want to say something like "word-complex" instead of sentence and show the relationship thus:

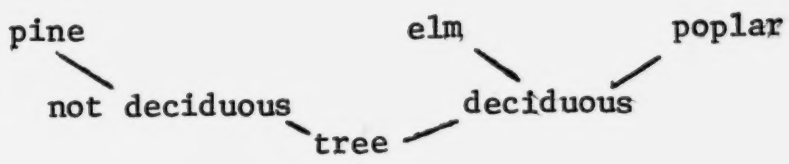


Is the relationship between the elements of language (sentences and words) or "word complexes" and "words", if we abstract them to Word$_1$, Word$_2$, etc. the same kind of relationship as the relationship, say, between (a) "red" and "color" or between (b) "car" and "motor"?

Unit 704
Worksheet #1

I. DIRECTIONS: Reduce the following groups of words to binary sets and show the relationship among them by using a tree-branch diagram. You will have to decide on two or more superordinates for each set. These are not given.

EXAMPLE: elm, poplar, pine.



1. carrot, celery, lettuce

2. orange, apple, pear, grape

3. frug, watusi, twist, waltz

4. jazz, folk, classical, rock 'n roll

II. Below is a set of sentences. Reduce each of them to binary groupings. You do not have to label the nodes. Use the question: Which words seem more necessarily bound together? Which words seem more closely related? Connect these two words first.

EXAMPLE:

I like Ike.

If you think "like Ike' seems more likely to stick together than "I like", your diagram will look like this:

and then it will look like this:

If "I like" seems closer, your first step will look like this:

And your second step will look like this:

Unit 704
Worksheet #1, page 2

Teenagers sing songs.

The young teenagers sing.

For pay teenagers sing.

The teenagers sing.

Those teenagers sing bad songs.

Teenagers can sing.

III. Draw the diagrams starting at the top and expanding to the sentences:

Teenagers sing songs.

The young teenagers sing.

For pay teenagers sing.

The teenagers sing.

Those teenagers sing bad songs.

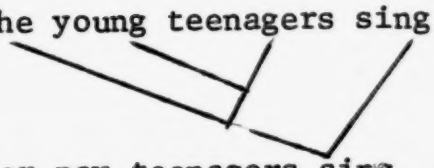
Teenagers can sing.

Preferable answers to Worksheet #1, Part II

(Answers to Part I will vary)

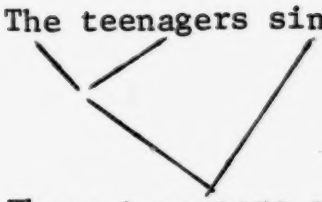
Teenagers sing songs.

The young teenagers sing.

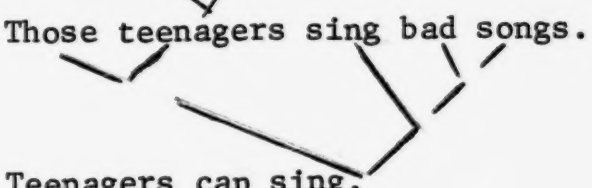


For pay teenagers sing.
(This is a transformed sentence; to make a satisfactory tree-branch diagram one would have to put "for pay" after "sing" where it came from. "teenagers sing for pay")

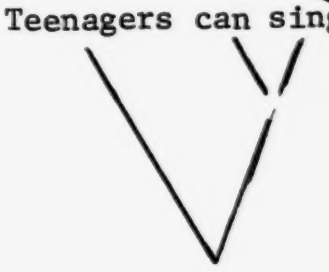
The teenagers sing.



Those teenagers sing bad songs.



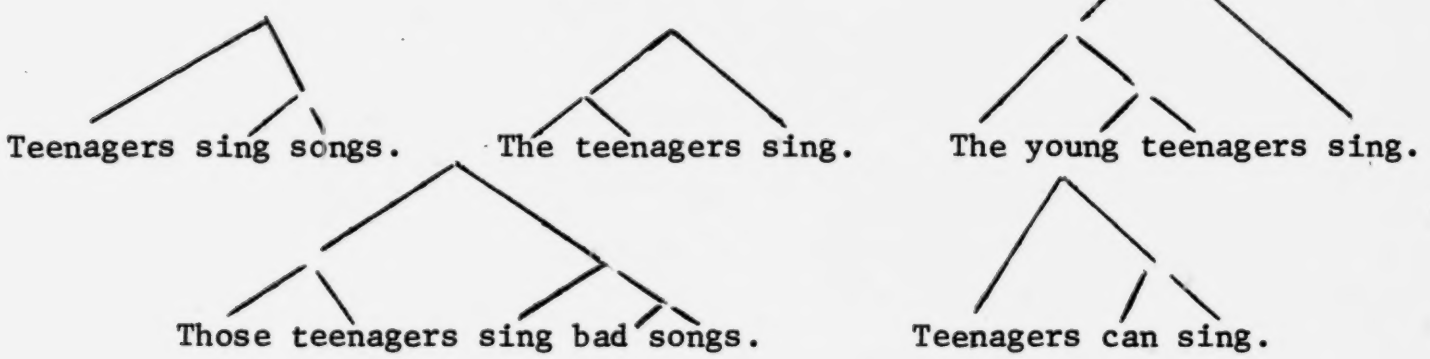
Teenagers can sing.



TEACHER NOTE: These can best be worked out in small groups of students. There will no doubt be a great deal of disagreement over the answers. At this point the important thing is that students see that they are making binary reduction. The purpose of introducing binary reductions of word groups in sentences is to awaken latent language consciousness by introducing a game that may spark controversy.

Do not let them draw one long line and branch off it. They must draw a short line which branches:

III.



IMP Word "is a part" of SENTENCE.

(between "car" and "motor")

Yes, words are <u>parts</u> of word complexes; a motor is <u>part</u> of a car. We cannot say "A motor is a car" or "A word is a sentence" as we can say "Red is a color." There are, then, at least two types of relationships which we can distinguish--the relationship of <u>part-to-whole</u> and the relationship of <u>specific-to-general</u>. When we talk about subordinates and superordinates, are we necessarily talking about either one of these relationships?

PART-TO-WHOLE
SPECIFIC-TO-GENERAL

Review and illustrate from the list on the previous page.

(Not necessarily, but <u>ordinarily</u>, we are talking about the relationship specific -to-general.

IMPORTANT

If, however, we are talking about relationships between elements of language, we might find that we were often talking about the relationship between parts and the whole. We will try to keep this distinction in mind as we go through this Unit.

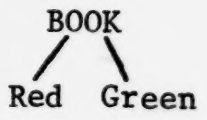
Now, let's see how these relationships will look in tree branch diagrams, and at the same time review the kinds of relationships which can be expressed. For example, how could you group the books on my desk?

Teacher: Have a student diagram the relationship on the board.

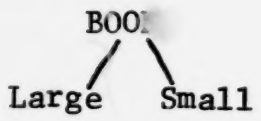
Be especially careful not to write plurals as the upper node in these diagrams. Students easily get confused.

Suggestions: Specify (make specific)

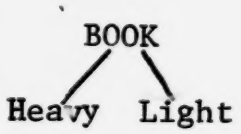
1. By Color



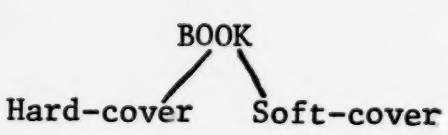
2. By Size



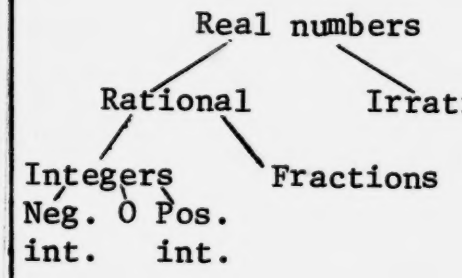
3. By Weight



4. By Binding



Note: The teacher might draw an analogy from the student's mathematical experience:



IMPORTANT

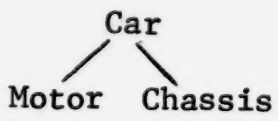
Are these relationships showing parts to whole or specific to general relationships?

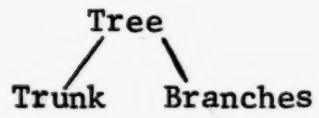
(specific-to-general)

Can you think of some things we could diagram to express a part-to-whole relationship?

Suggestions:

5.



6. 

Is No. 1 a derivation?

(Yes)

Is No. 2 a derivation?

(Yes)

Are Nos. 3, 4, 5, and 6 derivations?

(all are)

Distribute Worksheet No. 2

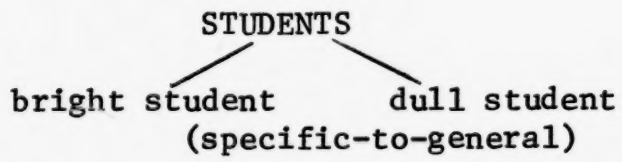
Now you will have an opportunity to work on your own with the tree-branch diagram. Look carefully at the worksheet I have just distributed to you.

Unit 704
Worksheet #2

Name _____

DIRECTIONS: Below are listed several sets of three terms. Diagram each set and label each "specific-to-general" or "part-to-whole." Put all superordinates in all-capital letters.

Example: bright, students, dull



1. Watusi, dance, Frug

2. Joe, Bill, student

3. bikini, yellow, bikini, purple bikini

4. $Word_2$, $Word_1$, word complex

5. North, South, pole

6. cover, book, page

7. Poe, author, Twain

8. Beatle, Ringo, George

9. brother, sister, child

10. fender, car, hood

Could any of these sets have more than 2 branches? (yes) Which ones can have only binary branching? (No. 5 and 9) Of what expansion of pair of shoes can there be only a binary branching? (left, right)

(For those of you who finish early, there are two problems on the next page which should challenge you)

Unit 704 Name _____
Worksheet #2, continued (Optional)

I. Dialectician, anthropologist, psycholinguist, linguist, rhetorician, phonetician, grammarian

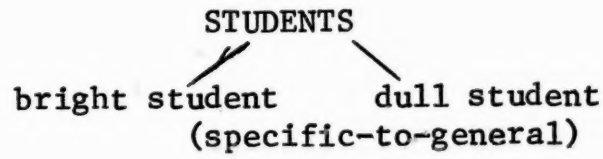
II. US, Minnesota, continent, South America, Canada, North America, South Dakota

Unit 704
ANSWERS: Worksheet #2

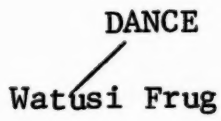
Name _____

DIRECTIONS: Below are listed several sets of three terms. Diagram each set and label "specific-to-general" or "part-to-whole." Put all superordinates in all-capital letters.

Example: bright, students, dull

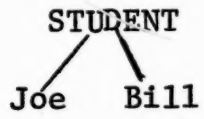


1. Watusi, dance, Frug



(specific-to-general)

2. Joe, Bill, student

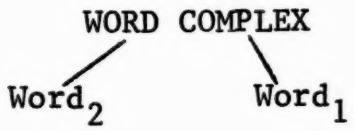


(specific-to-general)

3. bikini, yellow bikini, purple bikini

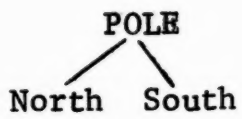
(specific-to-general)

4. Word , Word , word complex



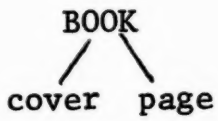
(part-to-whole)

5. North, South, pole



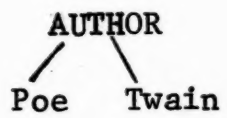
(specific-to-general)

6. cover, book, page



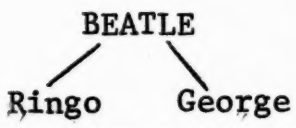
(part-to-whole)

7. Poe, author, Twain



(specific-to-general)

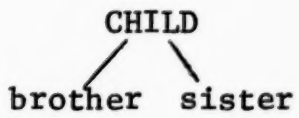
8. Beatle, Ringo, George



(specific-to-general

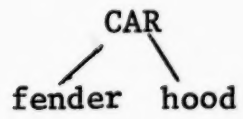
Unit 704
ANSWERS: Worksheet #2, page 2

9. brother, sister, child



(specific-to-general)

10. fender, car, hood



(part-to-whole)

Could any of these sets have more than 2 branches? (yes) Which ones can have only binary branching? (No. 5 and 9) Of what expansion of pair of shoes can there be only binary branching? (left, right)

Answers will vary

(For those of you who finish early, there are two problems on the next page which should challenge you)

Procedure: This lesson would best be started at the opening of the period, or right after the class has gone over worksheet #2 depending on how much time there is left after the evaluation of Worksheet #2.

To be read or rephrased by the teacher.

Review term: PSYCHOLINGUIST

IMPORTANT

OPENING REMARKS

Recall how in Unit 703 we found out some of the reasons people have for studying language and how their purposes decide the methods they use and the results they seek. In this unit we are concerned somewhat with the problems of the psycholinguist. We are trying to understand how our minds work and how they handle relationships. Since, however, you in Junior High have had a limited experience, there is not a wide range of relationships that we could examine to any real depth. Can we open an observation window and see how our minds work?

(No)

We cannot look at our minds, and it is the way our minds work that is interesting to us. But we can examine the relationships we handle. And this is something we know well and do efficiently. Maybe some of you don't think so, but you have been handling relationships in one aspect of your lives for almost as long as you have been alive, and whenever anyone will let you go on, you are willing to prove that you handle it very efficiently--that is, you know how to use your language. As psycholinguists, then, let us see what we can find out about the world of our own minds by looking at our language. We will have to think and observe something that we take for granted, but perhaps we will be able to draw a few conclusions about its basic

MATERIALS: unused notebook, watch

SHOW THEM

Try to have a pad of paper with no covers

It is very difficult to draw out these very simple and obvious concepts by induction. If it takes too long, tell them and make them feel foolish - the point being that we overlook basics, as we get older because our experience becomes more and more specific.

Students may disagree. They should be encouraged to elaborate on the reasons for their answers.

structure and the way in which that shows how we think. We can be quite sure, don't you think, that there are a few basic relationships in our language which can be understood by anyone who can talk--such as that utterances have <u>parts</u> which we call words. But a look at some other things that have parts will show us that there are two further relationships between the parts of things. For example, I have here an unused notebook and a watch. The parts of the notebook are its pages; the parts of the watch are a number of wheels, levers, screws, etc. What is the simplest way in which one could express the relationship among the parts of the notebook?

(same)

And among the parts of the watch?

(different)

If words are parts of sentences, then , what do you think, is the relationship among words a relationship of <u>sameness</u> or <u>difference</u>? Would it be similar to the relationship between the pages or between the parts of the watch?

(more like the parts of the watch; difference)

Would either of these be a "derivation'?

(no)

Would either of these be an "expansion"?

(yes)

I think we have to admit that at first glance words seem to have a lot more differences than they have samenesses. Still, if we are linguists, we will not be satisfied to come to this conclusion too quickly.

Same

recurrent sounds
recurrent spellings

Different

sound
meanings (referents)
function
articulation
use
pronunciation

(Review of claim, assumption, support)

We will want to approach the problem experimentally. Luckily for us, we probably have more knowledge of the language we speak--at least experimentally--than we know about anything else. Right in our minds we have a whole body of facts and feelings about how to say things, simply because we speak our language a good deal of the time, because we say thousands of words in a day. We are competent. Now, let's approach the question with an open mind. It seems to us that words are all very <u>different</u>. (At least more different than similar.) But maybe there are some categories we haven't been much aware of. Let us try to avoid using any preconceptions or prejudgments and to solve this problem as objectively as we can.

We have said that all words seem to be very different. Our goal in this study is to see whether all words belong in the same class or category--$word_1$, $word_2$, $word_3$, etc. Or whether they are all different, or what kinds of categories we might use to put them into.

Who can name some ways of classifying words?

NOTE: Review the many different ways of categorizing words in books.

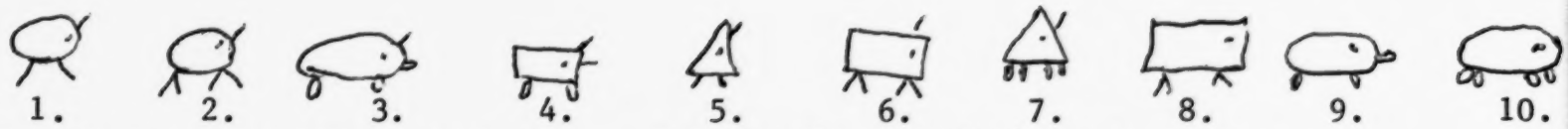
dictionary - by alphabet
rhyming dict. - by last sound
scrabble dict. - by last letter
biology book - by meaning

As you can see, categorization is a very complicated thing. Specifically, we are going to study how we categorize words. But since words are not the only

things we categorize, let us first examine some general principles of categorization.

PROCEDURE: Distribute Worksheet #3.

Unit 704
Worksheet #3



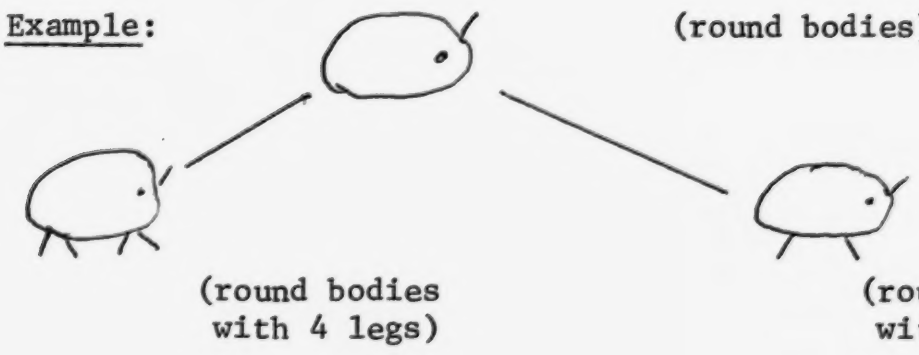
I. Examine the parade carefully. Put the "animals" into categories:

Name your categories A._____ B. _____ C. _____ D. _____

List the members that
belong to each category.

II. Choose a superordinate and draw a tree to show its subordinates.

Example:



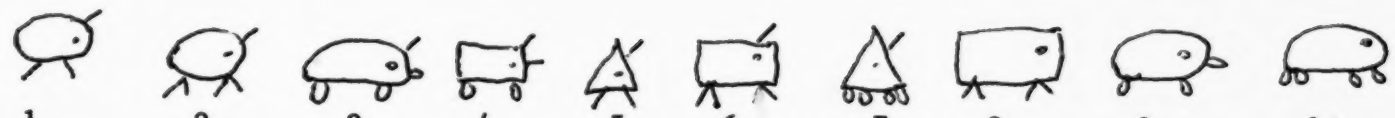
III. Is the relationship in II specific-to-gneral or part-to-whole?

IV. List the requirements of your category A in part I.

V. List the restrictions that keep certain "animals" out of your category A.

Unit 704
Worksheet #3
Sample answers

I. Examine the parade carefully. Put the "animals" into categories:



1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Name your categories

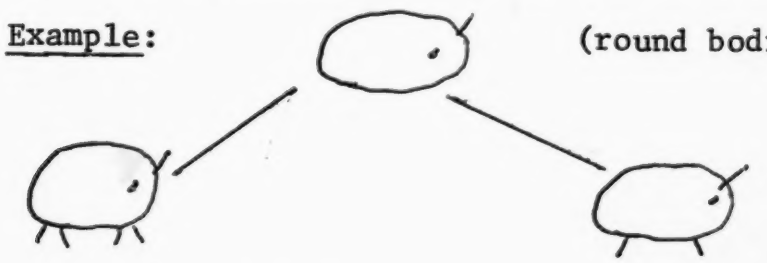
List the members that belong to each category

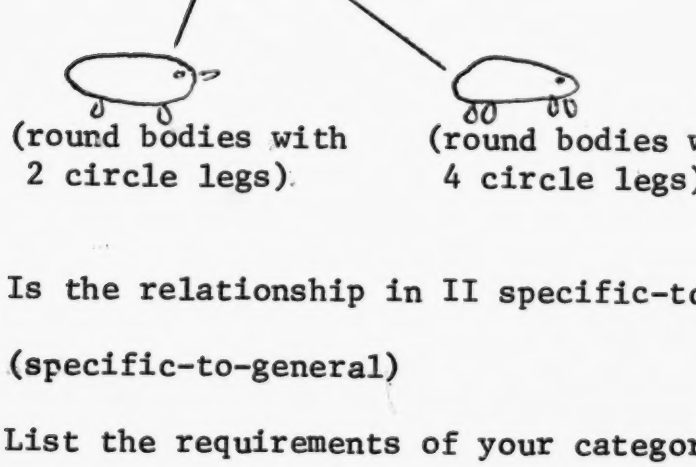
A. legs	B. bodies	C. eyes	D. nose
1, 5, 2, 6, 8, 3, 4, 9, 7, 10,	1, 2, 3, 4, 6, 8, 5, 7, 9, 10,	1, 2, 3, 4, 5, 6, 8, 7, 9, 10,	9, 4, 3,

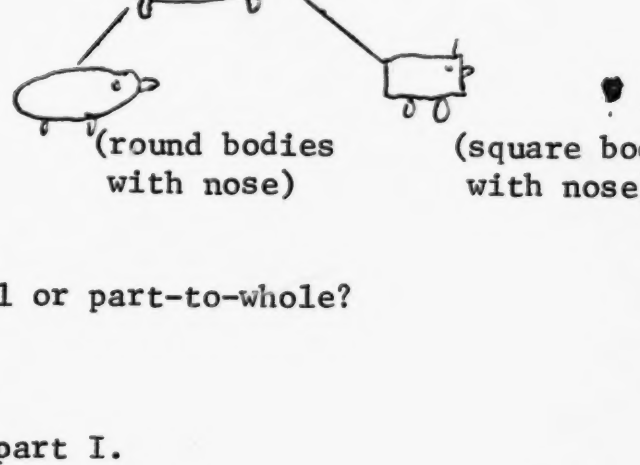
E. horns	F. no horns
1, 2, 3, 4, 5, 6, 7,	8, 9, 10,

II. Choose a superordinate and draw a tree to show its subordinates.

Example:







III. Is the relationship in II specific-to-general or part-to-whole?

(specific-to-general)

IV. List the requirements of your category A in part I.

(that they all have legs.)

V. List the restrictions that keep certain "animals" out of your category A.

(The leg can't be out of the body or apart from the body.)

Unit 704
Worksheet #3
Sample answers

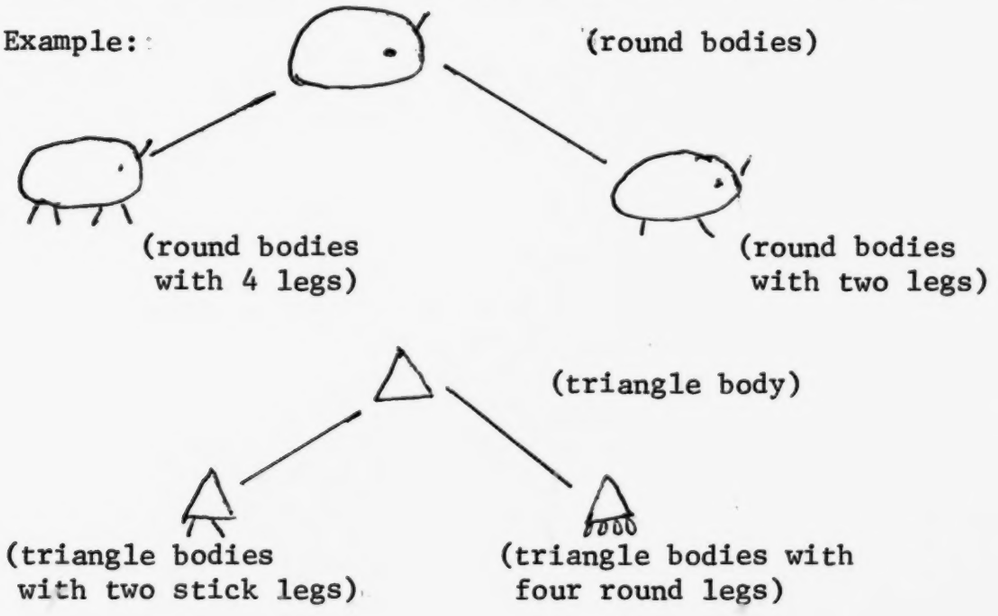
I. Examine the parade carefully. Put the "animals" into categories:

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

	A.	B.	C.	D.
Name your categories	round bodies	nose	four legs	two legs
List the members that belong to each category	1, 2	3, 4, 9	2, 6, 7, 8, 10	1, 3, 4, 5, 9

II. Choose a superordinate and draw a tree to show its subordinates.

Example:


(round bodies)
(round bodies with 4 legs)
(round bodies with two legs)
(triangle body)
(triangle bodies with two stick legs)
(triangle bodies with four round legs)

III. Is the relationship in II specific-to-general or part-to-whole?

(specific-to-general)

IV. List the requirements of your category A in part I.

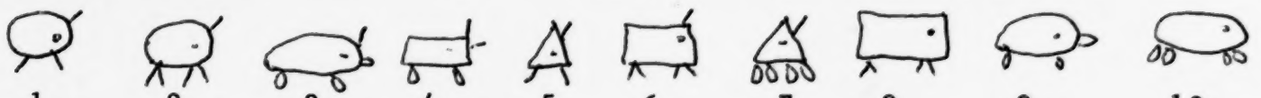
(A has a round body, an eye and horn.)

V. List the restrictions that keep certain "animals" out of your category A.

(two legs, round bodies, nose)

Unit 704
Worksheet #3
Sample answers

I. Examine the parade carefully. Put the "animals" into categories:

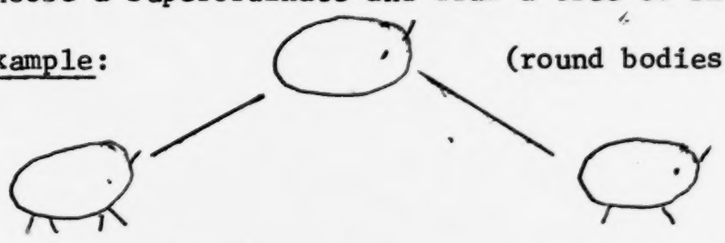


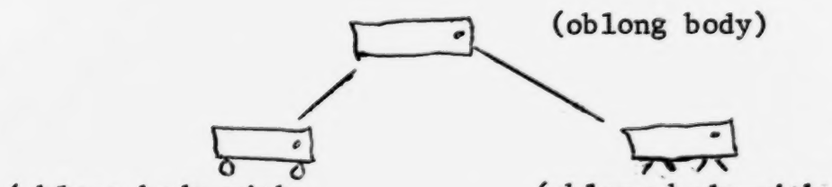
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

	A.	B.	C.	D.
Name your categories	round bodies	oval bodies	rectangle bodies	triangle bodies
List the members that belong to each category.	1, 2	3, 9, 10	4, 6, 8	5, 7

II. Choose a superordinate and draw a tree to show its subordinates.

Example:





III. Is the relationship in II specific-to-general or part-to-whole?

(specific to general)

IV. List the requirements of your category A in part I.

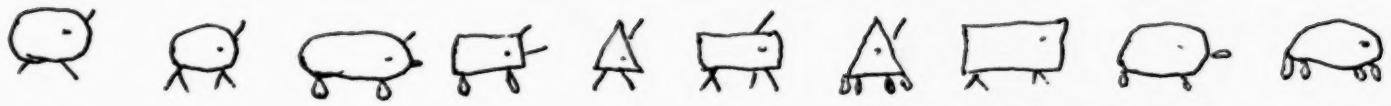
(Has to have a round body.)

V. List the restrictions that keep certain "animals" out of your category A.

(Can't have a body that isn't circular.)

Unit 704
Worksheet #3
Sample answers

I. Examine the parade carefully. Put the "animals" into categories:

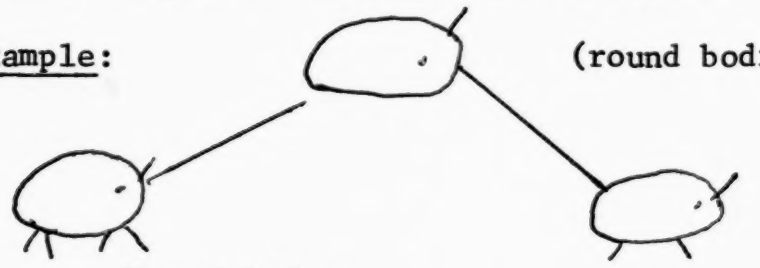


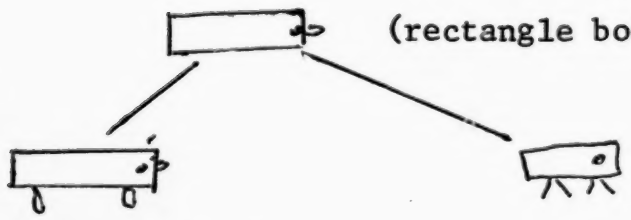
1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Name your categories	A. round bodies	B. rectangle bodies	C. triangle bodies	D. _____
List the members that belong to each category	1, 2, 3, 9, 10	4, 6, 8,	5, 7	

II. Choose a superordinate and draw a tree to show its subordinates.

Example:





III. Is the relationship in II specific-to-general or part-to-whole?

(specific-to-general)

IV. List the requirements of your category A in part I.

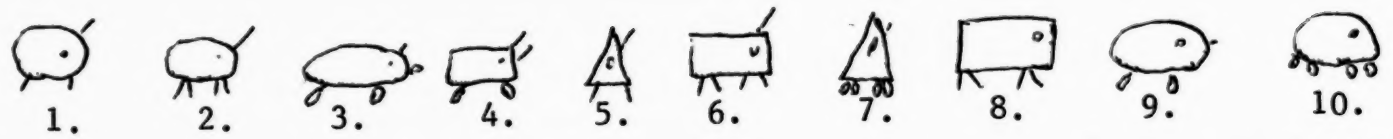
(The requirements of Category A are that the animals must have round bodies.)

V. List the restrictions that keep certain "animals" out of your category A.

(The restrictions are that there can be no triangular or rectangular bodies in this category.)

Unit 704
Worksheet #3
Sample answers

I. Examine the parade carefully. Put the "animals" into categories:



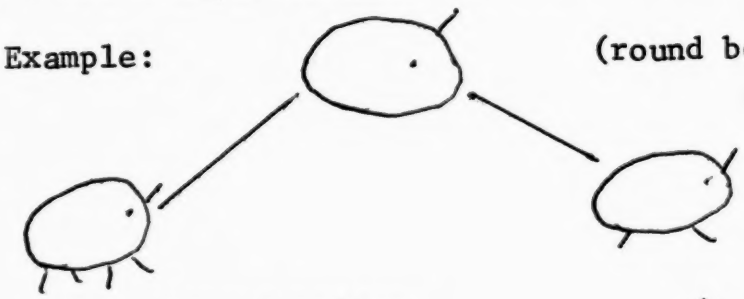
Name your categories A. round bodies B. horns C. rectangle bodies D. oval bodies

List the members that belong to each category: A. 1, 2 B. 1, 2, 3, 4, 5, 6, 7 C. 4, 6, 8 D. 3, 9, 10

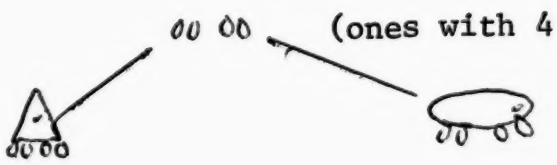
E. 2 oval legs: 3, 4, 9 F. 4 oval legs: 7, 10 G. 4 stick legs: 2, 6, 8 H. 2 stick legs: 1, 5

II. Choose a superordinate and draw a tree to show its subordinates.

Example: (round bodies)



(round bodies with 4 legs) (round bodies with two legs)



(ones with 4 oval legs)

(triangle body with four oval legs) (oblong body with 4 oval legs)

III. Is the relationship in II specific-to-general or part-to-whole?

(specific to general)

IV. List the requirements of your category A in part I.

(Has to have a round body.)

V. List the restrictions that keep certain "animals" out of your category A.

(They can't have triangle bodies, rectangle bodies, or oval bodies.)

OBJECTIVE: Introduce "restrictions" and requirements" for membership in categorization.

PROCEDURE: Have students come to the board one at a time and diagram a category. Ask the students to expalin the basis for his arrangement. Show that some animals are excluded from a category because they do not share the specifying quality, the requirement.

ON BOARD

DRILL IMPORTANT

Discussion following Worksheet #3

You have been asked to classify "animals" and illustrate your categories with tree-branch diagrams. Now we are going to ask several of you to come to the board and diagram the super-ordination and subordination of your classification.

Let's now make a list of the bases you used to classify the animals:

1. body shape
2. number of legs
3. number of ears
4. presence of nose

1. We began with ten animals. Did anyone have all ten animals in one category?

(If the answer if yes, what was the requirement? Did all the animals share it?

(If the answer is no, why weren't all ten animals in one category?)

(Because not all animals had one body type, same number of legs, same number of ears, etc.)

These factors excluded them or kept them out of a category. These factors we can call restrictions. Requirements for membership are "what lets something into" category. This is not usually the same thing.

You've all heard these terms in other contexts. Let's consider a school activity as a category--the school football team.

2. Are all students on the football team?

(no)

3. What are some of the requirements for membership?

(a certain grade average, strength, endurance, free time after school, consent of parents, desire, male.)

4. Why, in general, aren't all of you on the football team?

(because we lack one or more of the above characteristics. Or--no one who belongs on the football team can also be in the band, which meets at the same time.)

What terms did we use for those factors which exclude something from a category?

(restriction)

In other words, if you did not share one of the characteristics we listed on the board, you would be <u>restricted</u> from the football team. If you had these characteristics you would have the necessary <u>requirements for membership</u>.

Thus far we have discussed the problems of categorization in terms of "animals" and school groups. Let's not forget, however, that our specific problem is to determine how we categorize <u>words</u>. But how do we decide on the categorization? About the same way as we would for animals.

TRANSITION
RESTATEMENT

As scientists studying language, what will be our raw material or source of data?

(the language we speak
or possibly, written language.)

But the language which we speak is a very complicated thing. We would hardly know where to begin. The number of words in your reading vocabulary is about 10,000 words.

Can you think of a time when your language was simpler?

(as children)

Focus on two-word utterances if possible.

Can you give some examples of very, very simple utterances?

(See Spot
All done
Good!
Yes!)

NOTION OF DERIVATION

Derivation:

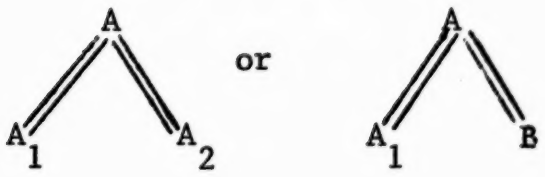
Is it possible that all the categories of your language might have been derived from very simple utterances?

(perhaps - yes)

Diagrams

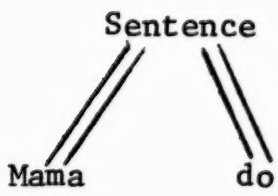
At least, what would you think about wanting this to be true?

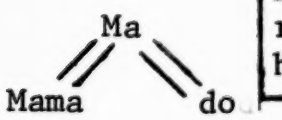
(It would be sensible to think we went from one to another.)



Would language be easier to understand if it all started from a one-word, then a two-word sentence?

(Yes, because then everything would be derived from the step above--almost the climbing rungs of a ladder. We understand derived terms because we know what they derived from.)





All part-to-whole relationships will have double lines.

This special kind of expansion would make at least the basis understandable. We don't know, of course, if such a thing could be true, but in English, at least, perhaps it is. Perhaps all the expansions in English are derived, say, from A and related to A; then from A, and related to A, or from B and related to B. That is, perhaps all the sentences which you can say now are basically related to the first level of abstractions.

Some of you are probably thinking back to what you know about children's language. Do you remember some of the very simple sentences your brothers or sisters or the children you baby-sit have said?

(time for response)

List on the board any volunteered utterances.

As you talk put these sentences on the board with tree-branch diagrams as:

etc.

Write SENTENCE on the board in capital letters. Observe this convention carefully throughout whenever "deep" concepts are put into notation.

How did they get these two-word utterances? Did they just come out of nothing, so to speak?

(they were expanded or derived from an earlier one-word utterance.)

Probably most children say (at least to themselves) one-word utterances before they say two-word utterances. For example, the baby says, "Mama." Later on he uses this word in a longer utterance, such as "Mama nice" or "Mama all gone" or "Mama go bye bye" or "Mama do".

If "mama" is all the one-word sentences this child ever said before starting two-word sentences, the node could be called SENTENCE. Who will volunteer to change the diagrams on the board to one with the base or deeper node called SENTENCE.

Which level on the diagram is "deeper" in terms of the child's experience--"deeper" in his past?

(the node. SENTENCE MAMA)

This diagram is the beginning of the BASE PHRASE-MARKER. In a way all other possible utterances in English can be said to be derived from, or based on a simple

relationship. Are these two relationships different in any respect besides the form of the words? For example, how are the two branches of a pair of shoes different? How are the two branches of a tree-branch diagram different?

(one is left and one is right. They are in different positions.)

If we key simply to the difference in position, what kind of a difference, or contrast, would we say we have?

Draw out as many inferences as possible. It will be the rare student who will pick up the difference in position. Possibly you can work this out inductively. It is the concept that DIFFERENCE in position makes DIFFERENCE in Function that should be stressed.

POSITION
STRUCTURE
IMPORTANT

(a structural difference, or contrast.)

Now all learning probably depends on our ability to see differences, to hear differences, to test out differences between things and sets of things. Some of you may have younger brothers or sisters. They are learning new differences, or contrasts, all the time. It is these contrasts which makes the world more and more meaningful to them, more predictable, less frightening. All of us like to see contrasts and to make huge cuts through experience calling everything either black or white, nice or terrible, meaningful or meaningless as the case may be. But it is a long time since we were in a world where each new contrast was a revelation. What are some of the first contrasts you probably learned? Think back to your observations of the way children must learn things. For example, if for the first time you saw someone turning out the light, what do you think the contrast you would perceive would be?

(between light and dark)

If Mutt and Jeff, or the neighborhood father and his little boy walked by, what would be the most obvious contrast?

(tall and short)

If you touched a stove, then opened a refrigerator?

(hot and cold)

If you tried to reach through a clean glass to get a leaf or something?

(open and closed)

DRILL TERMS
Make every effort to give the students a firm basis for later distinctions that will derive from the basic distinction between
a) structural (having to do with position on a tree or in a string)
b) semantic (having to do with selectional features governing choices from the lexicon)
c) phonological (having to do with perceptible sound)
contrasts.

TEACHER NOTE: You might mention that all these differences are environmental in nature.

If you reached for the moon and for the nose of the person holding you?

(far and near)

As you grew older, you learned finer and finer distinctions and new contrasts. As you expanded your experience, you also expanded your sentences. Were you able to expand your sentences without perceiving some contrasts in your utterances?

IMPORTANT

(How could you? The experience is the same.)

And if two-word utterances were the deepest, or most basic derivation, what was probably the most basic contrast?

(position)

Could there even have been a contrast in position in the one-word utterance?

(Yes, between beginning and ending sound, one was first.)

PROCEDURE: Pass out Worksheet #4.

Unit 704
Wordsheet #4

1. (Review) The contrast between the left position and the right position is a _____contrast.

2. Much of our learning is a process of distinguishing contrasts. Most of these contrasts are in the world of things about us. Some of the first contrasts you may have learned are those between:

   light and _____; tall and _____; hot and _____.

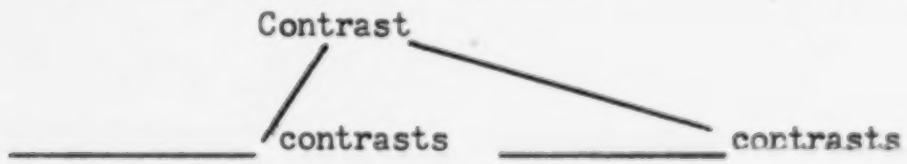
   open and _____; far and _____; high and _____.

3. As you grew older, you learned finer distinctions between your contrasts. Each time you really learned a new distinction, you learned a way to express it. These contrasts we could say were not structural but s_____ contrasts.

4. Before you could clearly express semantic contrasts, you must have already learned some s_____ and ph_____ contrasts.

5. The structural and phonological contrasts,are more closely related to 1 ____ _____ in itself. The semantic contrasts are more closely related to the world outside 1 _____, or to ex_____.

6. A tree that shows this specific-to-general relationship is.



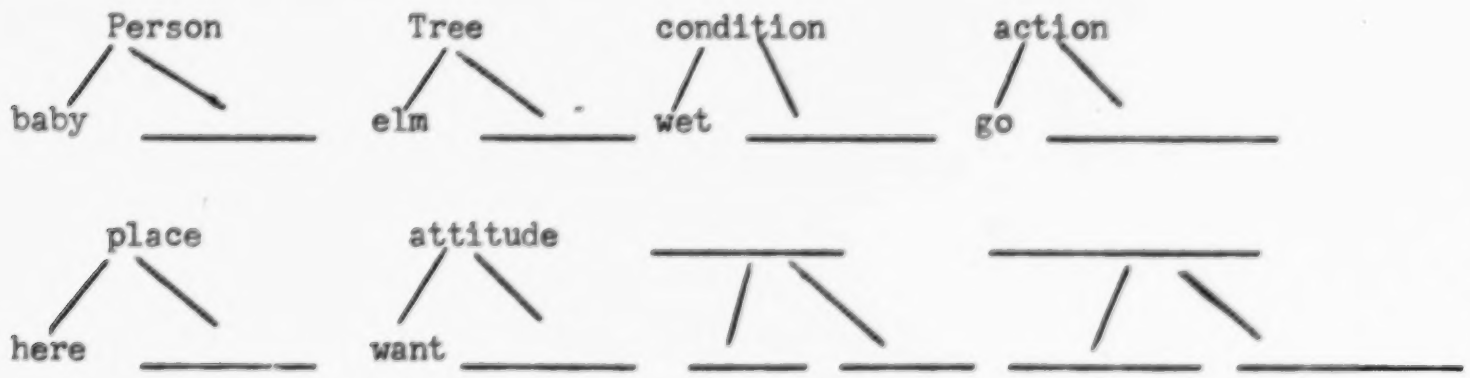
7. If I say "turn the light off," I am expressing one term of the contrast between light and _____ and one between "off" and " _____".

8. Even when only one term of the contrast is expressed, we know both of them because of our ex_____.

9. What semantic contrast is the child expressing when he says "Wet"? A. The contrast between "wet" and _____.

10. Do all contrasts have two words to express them? _____.

11. Sometimes the contrast is just a plus-minus contrast, like "baby" - "not baby". Finish these trees:



Unit 704
Worksheet #4
Answers

1. (structural)

2. (dark; short; cold)
   (closed; near; low)

3. (semantic)

4. (structural) (phonological)

5. (language) (language) (experience)

6. Contrast

   semantic contrasts phonological contrasts

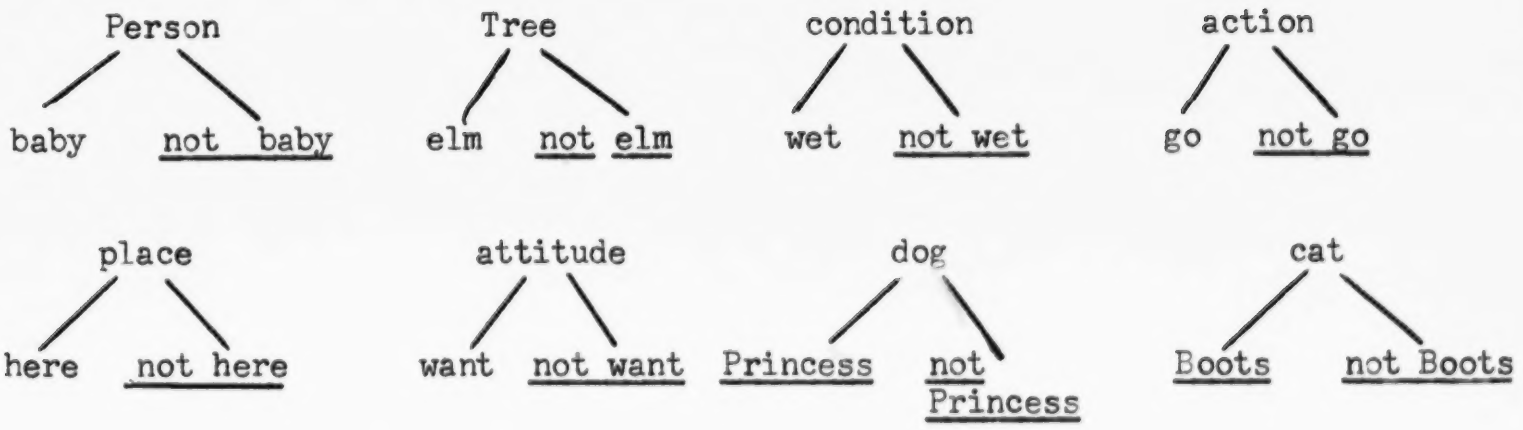
7. (dark) (on)

8. (experience)

9. (dry)

10. (yes)

11.



PROCEDURE: Go over Worksheet #4

Now I'm sure that all of you have a sneaky feeling that it isn't quite fair to these little children to say that their only perception of contrast is one of position--that is, a structural contrast. You have to know more than first and second, left and right, to build most of these sentences. Notice, I said "build." This is because position is the basic, deeper, or first contrast which structures, or builds, language. Because position is so very basic--unless you put one sound after another--you can't have speech. We will use the term 'structure' to refer specifically to the position contrast of our expansions. Thus: structural contrasts are those which are expressed in the part-to-whole relationship.

Terms:
STRUCTURE
EXPANSION
DERIVATION

IMPORTANT

It seems that for a while little children associate a semantic similarity with a structural similarity. When they do this, their speech contains a small number of "pivot words." These pivot words tend to have the same meaning in every sentence, and the other half of the sentence somehow "pivots" around the meaning of the pivot word. The child has a whole list of sentences that use the word "nice." He says "nice Mama"; "nice Daddy"; "nice toy"; "nice potato"; "nice doggie." In general the word "nice" seems to mean "pleasing to baby."

PIVOT WORD

Perhaps the pivot word is the beginning of an understanding of adult syntax. At any rate, the use of the pivot Word is rather a usual occurrence in child language. Listen to the children you know and

see if you can discover a word that recurs often in the same position in their utterances.

But, as we said, we all have a sneaking suspicion that there are other contrasts the child would have to perceive before he could go very far with making the sentences we have listed here on the board. That is, the children are perceiving contrasts not only in the utterances they say but in what?

(the world around them)

Remember, when we first talked about contrasts and learning we listed some contrasts such as "tall and short," "light and dark." These are perceptual contrasts in <u>experience outside language</u>; yet they are related to language, because the language expresses the contrasts. For our own sake, we will need a contrastive term, too. To contrast with STRUCTURAL we will use the term SEMANTIC. Who will show the relationship between "structural" and "semantic" in a tree-branch diagram?

SEMANTIC
The students should already have had some contact with this term in Units 702-703.

IMPORTANT

CONTRASTS

structural semantic

Do these branches have a <u>structural</u> relationship?

(No, they are "specific-to-general." The order or position only counts in part-to-whole relationships.)

Do they have a <u>semantic</u> contrast?

(Yes)

Now, turn your attention again to the utterances we have listed on the board. Most of them express both terms of the structural contrast. But for the semantic

contrast one term of the contrast is implicit. It is known by the fact that the opposite of what is expressed is not there. For example, if the child says "Light off" and means "I want the light to be turned off," he is expressing the fact that he perceives a meaningful contrast in experience between the light being on and the light being off, a contrast between light and darkness. This is what kind of a contrast?

(semantic)

If the child says "No down," meaning "Don't put me down," he is expressing what semantic contrast?

(between being up and being down, being held and being on the floor or in the crib)

If the child says "No wet" meaning "I'm not wet," what semantic contrast does he perceive?

(between wet and dry)

For tomorrow you will be on your own in deciding what possible semantic contrasts the child might be perceiving in building some sentences. Remember, one term of the semantic contrast is often not expressed. Unless a comparison is made, you usually have to guess the other term from the expression. Perhaps you might even wish to express the contrast as a minus and a plus:

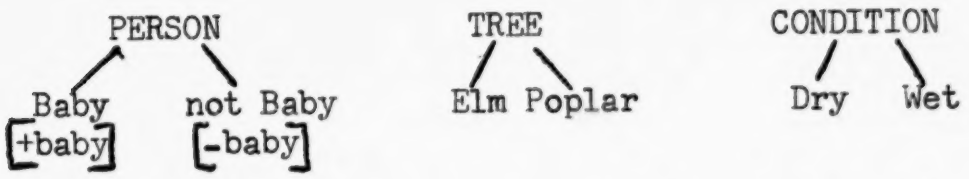
wet vs. not-wet
dry vs. not-dry
+wet vs. -wet
+dry vs. -dry

In the tree-branch diagrams of these units, selection rules will be expressed with single line branches. Actually only single selection rules are showing in the trees. They form part of the generative phrase structure only when one or the other branch is chosen.

Please recall that we've been diagramming our expansions with double lines. Now if we use single lines for the semantic contrasts, you can see the difference between

the part-to-whole relationship and the specific-to-general, or selection relationship.

Thus:



Give some sentences in which a word expressing the baby/not-baby semantic similarity is used as the pivot word:

(Baby good
Baby nice
Baby naughty
Baby here
Baby up, etc.)

Give some sentences in which a word expressing semantic similarity in CONDITION is the pivot word:

(Baby wet
Mary wet
Mother wet
Doggie dry
Doggie wet, etc.)

PROCEDURE: Distribute Worksheet #5.

PROCEDURE: Go over Worksheet #5 with students.

Ask students to pool their contributions. Try to find examples of pivot words in the pooled results. Try to find examples of pivot words even in the 10 utterances brought by individual children. Then look at the answers to part III. If there were any sentences with pivot words, the pivot word should be the one used as a superordinate.

The point of this little excursion is not central to the understanding of the tree-branch diagramming, though it does have relevance to the notion of derivation. If it doesn't seem to come across it is not necessary to press the matter. On the other hand, if you can at least use the vocabulary, you may find it valuable later on in speaking of prepositional phrases and other headed structure.

Unit 704
Worksheet #5

I. Select, either by observation or from memory, 10 child utterances. They may have either 2 or 3 words each,

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

II. Now make a tree for each of the above utterances that has 2 words. The superordinate is UTTERANCE.

Example: UTTERANCE

Mama do

III. Recopy the trees above and change the superordinate in each case to one from which you think the 2-word sentence may have been derived. That is, put the possible earlier 1-word sentence at the node. Try to think how in this case you have a specific-to-general relationship.

Example: MAMA

Mama do

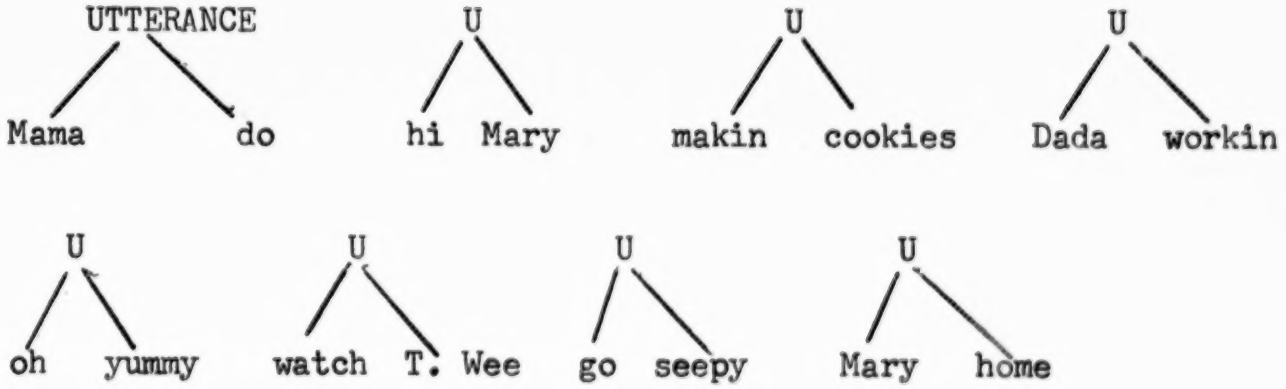
Unit 704
Worksheet #5
Answers

I. Select, either by observation or from memory, 10 child utterances. They may have either 2 or 3 words each.

1. I'll hit you.
2. Hi Mary
3. Mom, Mary's home.
4. Mama's makin cookies.
5. Dada workin.
6. "Moooorie"
7. Oh yummy
8. Yets watch T. Wee
9. Gonna go tonite?
10. Go seepy.

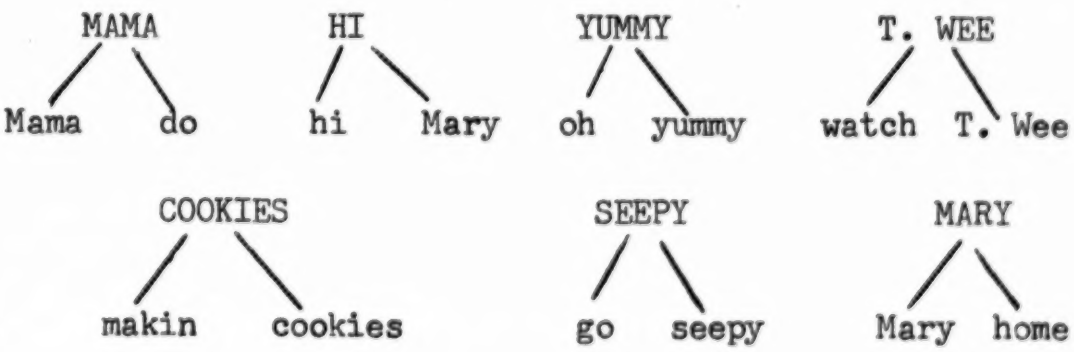
II. Now make a tree for each of the above utterances that has 2 words. The superordinate is UTTERANCE.

Example:



III. Recopy the trees above and change the superordinate in each case to one from which you think the 2-word sentence may have been derived. That is, put the possible earlier 1-word sentence at the node. Try to think how in this case you have specific-to-general relationship.

Example:



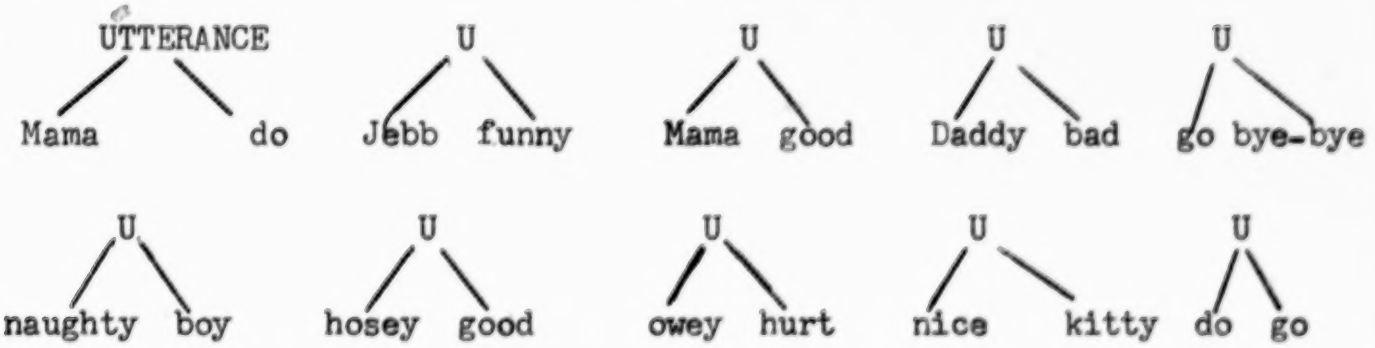
Unit 704
Worksheet #5
Answers

I. Select, either by observation or from memory, 10 child utterances. They may have either 2 or 3 words each.

1. Jebb funny
2. Mama good
3. Daddy bad
4. do go
5. Go Bye-Bye
6. Da want
7. naughty boy
8. hosey good
9. owey hurt
10. nice kitty

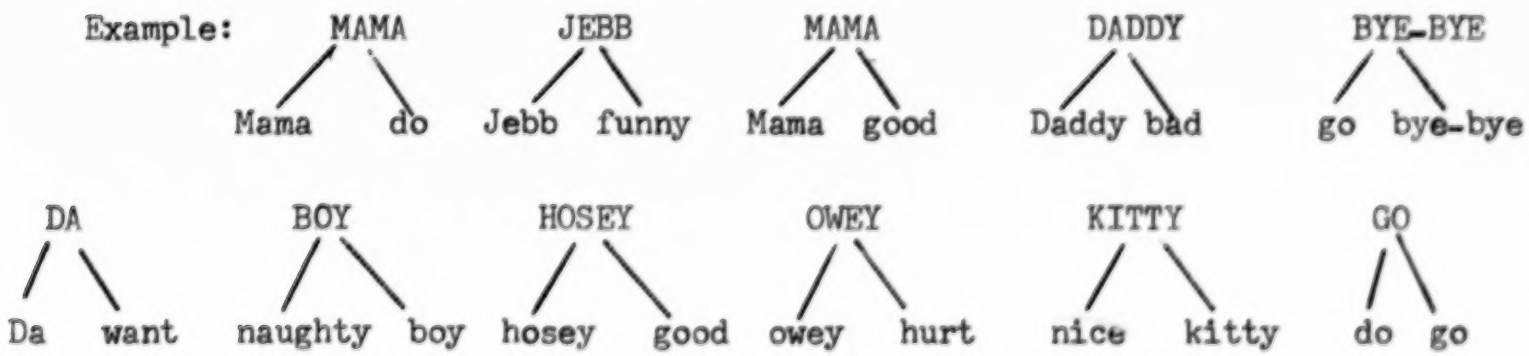
II. Now make a tree for each of the above utterances that has 2 words. The superordinate is UTTERANCE.

Example:



III.. Recopy the trees above and change the superordinate in each case to one from which you think the 2-word sentence may have been derived. That is, put the possible earlier 1-word sentence at the node. Try to think how in this case you have a specific-to-general relationship.

Example:



PROCEDURE: Go over each item on the worksheet with the class. Each time:
1. Diagram the utterance on a tree.
2. Name the structural and semantic contrasts underlying each word.

Example: Baby nice.

Discussion following Worksheet #5

The first contrasts we mentioned in this unit were structural. Now we have talked about semantic contrasts, or contrasts in meaning.

Using our worksheets, let us see how these contrasts in meaning and position of words can serve as a basis for categorization. Remember, if something is to be a member of a category, it:

a. must meet certain requirements of membership

b. must not be excluded by certain restrictions.

Example:

structural contrast: "Baby" is on the left branch
structural contrast: "nice" is on the right branch

semantic contrast: good/bad (expressed by nice)
semantic contrast: baby/not baby (expressed by baby)

The word on the right hand branch expresses one semantic contrast. The word on the left expressed the other semantic contrast.

If you were going to write or speak a few more utterances which had the same structural and semantic contrasts (the same pattern), you would have to have other words that express the semantic contrasts good/bad and baby/not-baby. These words, moreover, would have to be able to fit into the left- and right-branch positions respectively.

Exercises to reinforce the understanding of terms "restriction" and "requirement" and relate them to "structural contrast" and "semantic contrast."

1. What are some other words that might express the general semantic contrast baby/not-baby?

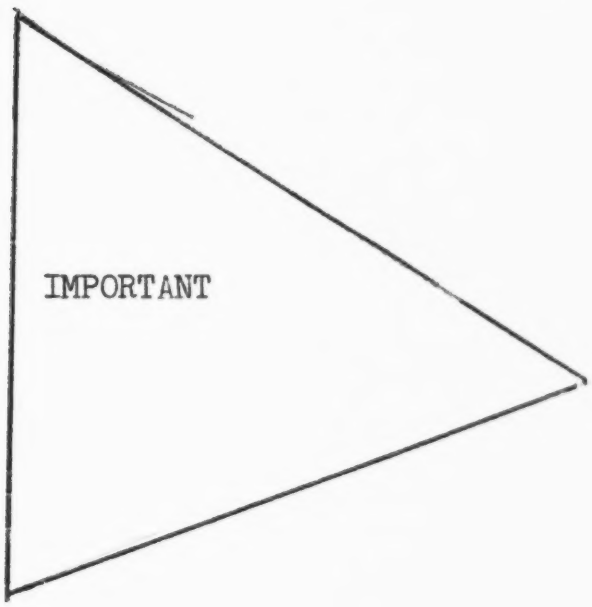
(me - Mary
I - John
myself - Mother
mine - yours
my - his)

List A

2. What are some other words that might express the

general semantic contrast good/bad?

(greasy - smooth
lovely - ugly List B
pretty - bad-looking
good-naughty
obedient - disobedient



3. Would all the words from list A fit in the left-hand branch of a child utterance?

(Maybe. There are many children whose shorthand English would admit them rather easily. Try:
Me naughty
I ugly
Mary good-looking
Mine pretty etc.
"My" would cause the most difficulty and be the least likely.)

4. Would all the words from list B above fit into the right-hand branch of a child utterance?

(Probably. Some of the words are way out of the vocabulary range of small children, however. They can still be used to make the point, particularly with the stipulation that some children are very precocious.)

Then for a word to belong to Category A on this diagram, what are the requirements?

(For this pattern:
semantic contrast - baby/not-baby
structural contrast - left branch position)

DRILL with other examples

What are the requirements for B?

(For this pattern:
semantic contrast - good/bad
structural contrast - right branch position)

If "my" won't fit in category A, what can we say about it with regard to requirements and restrictions?

("My" is restricted from A. There is a restriction: "My"(or words like "my") cannot belong to A.

What would happen if I wanted to say that the utterance "Me doctor" belongs to Pattern A-B?

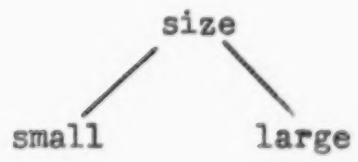
(We would have to say it cannot because "doctor" has the wrong semantic contrast and therefore does not have the requirements for membership in B.

Unit 704

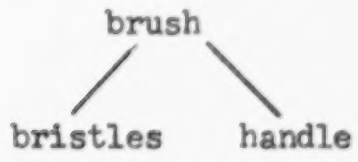
TEACHER REFERENCE
For Work at Board

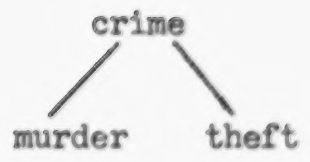
Rewrite the following trees:

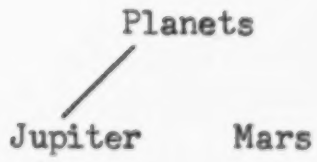
Example A

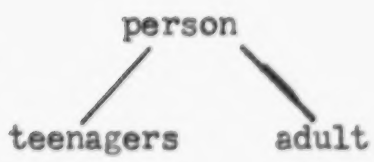


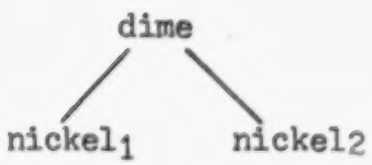
Example B

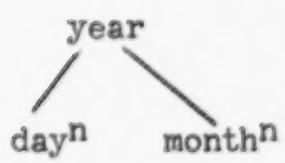


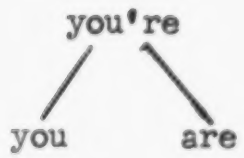


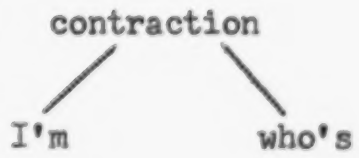


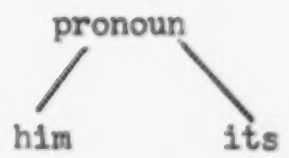


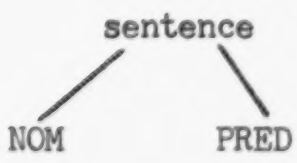


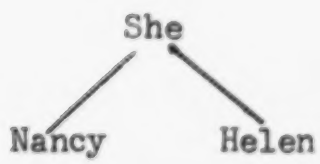


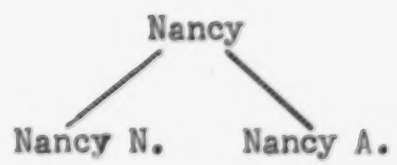












Example A size ⟶ { small, large }

Example B brush ⟶ bristles + handle

Are we saying that "doctor" is restricted from the pattern AB?

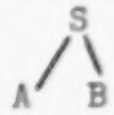
(Not strictly. To say something cannot come into a category because it has a definite restriction on it is stronger than to say it cannot come in because it fails in some requirement of membership.)

Show how part-to-whole and specific-to-general relationships are to be integrated into this understanding of the pattern into which words fit.

Look back at lists A and B. Does Mary have a part-to-whole or a specific-to-general relationship to category A?

(specific-to-general. Mary is one of the kinds of words that belong to this category. Each specific member of the set "is a" A or "is a " B. When we make a sentence according to this pattern we can select any one of the specific members of the category, or list.)

IMPORTANT

In the tree 

what relationship does B have to S?

(a part-to-whole relationship. B "is a part" of S.)

What relationship does A have to S?

(A part-to-whole relationship. A "is a part" of S.)

N.B. This work may seem somewhat unrelated to what is being studied, namely grammar. But if the grammar is to be a base for logic, and if the fundamental notion that parts of speech are really categories which can be designated by a symbol which stands for the specific set of similarities or features that make up the category, there seems to be no way to eliminate the material presented here. Even if it does not directly contribute to the understanding of the grammar, it ought to contribute to the later surface studies of logic and perhaps even of rhetoric.

If Mary and I and me are all "A's", do they have a structural contrast or a structural similarity?

(Structural similarity)

If Mary and Bill and Mother have a semantic contrast to baby, what do they have to each other? A semantic -

(Similarity)

If a category will allow words that have a semantic contrast but not a structural contrast, what could we say is the RESTRICTION placed on membership in this category?

(The restriction is: Words with contrasting semantic features are not allowed in this category.)

On the whole, then, would we generally be speaking of contrasts, or similarities when we speak of requirements?

(Similarities)

Would we generally be speaking of contrasts or of similarities when we are speaking of restrictions on members of categories?

(Generally of contrasts.)

SUMMARY: Members belong to a category because they have certain <u>similarities</u>, which we speak of as being the <u>requirements for membership</u> in the category. Items are excluded from a category because there are restrictions placed on membership in the category. A <u>restriction</u> placed on membership in a category usually involves some <u>contrast</u> to a feature which is more or less inherent in the requirements.

PROCEDURE:
Distribute Worksheets #6a, b, & c.

Unit 704
Worksheet #6a

Name _____

I. Examine the following list of utterances.

nice doggie

nice kitty

nice baby

nice wagon

nice bye-bye

nice drink

nice Mama

Mama go

baby go

II. Answer these questions about the utterances above.

a. If these are all of the child's utterances, how many words seem to have a fixed position? _____

b. Which words have fixed positions? _____

c. Which words belong to the child's right-branch category? _____

d. Which words can be selected for the left-branch position? _____

e. Which words can be used in either a left-branch or a right-branch position? _____.

f. Write the child's most probable three-word sentences using this "lexicon".

_____

III. Make trees that show the base phrase-structure of the sentences. Use the blank space at the top.

Unit 704
Worksheet #6a Sample Answers

a. two
b. nice, go
c. doggie, kitty, baby, wagon, byebye, drink, Mama, go
d. nice, Mama, baby
e. Mama, baby
f. Nice Mama,go, Nice baby go

III.

Unit 704

Supplementary Worksheet #6a

The structural and semantic contrasts are both necessary before the language learner can put his words into categories; that is, into selections which can be used as pivot words. To be a member of a category, something must have (1) requirements (2) restrictions. After several structural contrasts are established in pivot words, the semantic contrasts can become requirements for the selections that go with the pivot word.

Make up utterances using the following words:

Left position: (Pivot) nice (Pivot) Mama baby hi (Pivot) there byebye

Right position: (Pivot) here no-no up byebye Mama go

1. _____ _____
2. _____ _____
3. _____ _____
4. _____ _____
5. _____ _____
6. _____ _____
7. _____ _____
8. _____ _____
9. _____ _____
10. _____ _____
11. _____ _____
12. _____ _____
13. _____ _____
14. _____ _____
15. _____ _____
16. _____ _____

Name the semantic requirements of your non-pivot selections. Some possible semantic contrasts which might be used as requirements: Place the letter of the semantic similarity in the blank above.

A. place

B. name of something that moves

C. name of somebody

D. kind of moving

E. kind of feeling

F. greeting

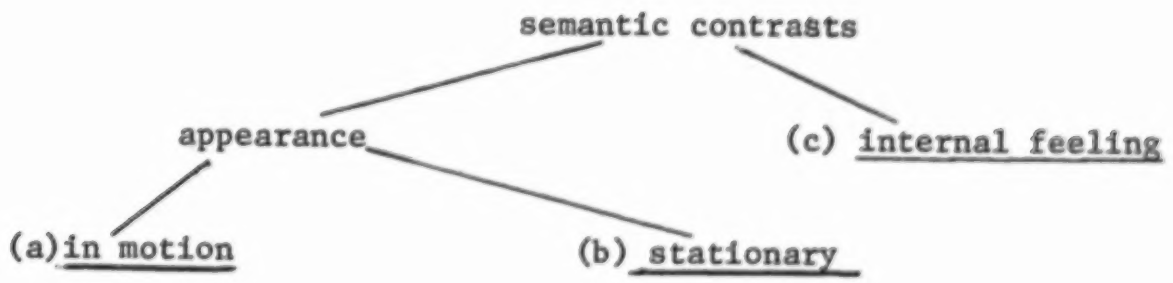
G. permission

H. kind of appearance

Unit 704
Worksheet #6b

Name _____

Below are some utterances which might describe a dog. After each one tell which of these semantic contrasts apply:



wag tail _____

run _____

jump _____

jump with joy_____

short tail _____

long ears _____

run fast_____

bark joyfully_____

red tongue _____

long fur_____

energy-like_____

happy _____

Unit 704
Worksheet #6c

Name_____

Part I.

List 5 sentences from the board or from your notebooks. After each sentence state the semantic contrast implied. If possible use sentences you have heard children say, so as to use your experience for the interpretation.

Part II.

DIRECTION: Below are a series of child utterances. the first three are translated into some kind of adult speech more explanatory to us. Study these examples and translate the remainder into what you think a young child would mean by each one. In most cases, there are several possibilities.

UTTERANCE	DIAGRAM	TRANSLATION	CONTRAST
1. Show baby.	show baby	Show that thing to me.	What is seen What is not seen
2. Baby nice		I have been good. Show approval. Praise me.	
3. Danny cry.		(If Danny is speaking): You'd better not do that, or I'll cry. (If Danny is being spoken about): Don't hurt Danny or Danny will cry. Or: Danny is crying.	
4. Mama do.			
5. Baby bye bye.			
6. Take baby.			
7. Daddy nice.			
8. God know.			
9. Give me			
10. Wawa all gone.			

Unit 704
Worksheet #6c (cont.)

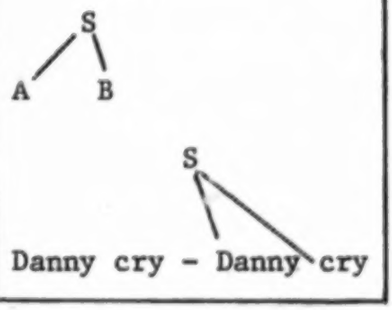
Name _____

III. Below are a series of child utterances. Study them carefully and decide what semantic contrasts each one suggests.

	Utterance	Semantic Contrast
1.	Show baby (show that to me.)	what baby can see vs. what baby cannot see.
2.	Baby nice (I have been good).	being good vs. _____.
3.	Danny cry (Danny (I) will cry).	crying vs. _____.
4.	Mama do ( ).	_____ vs. _____.
5.	Bye-bye Baby ( ).	_____ vs. _____.
6.	Take Baby ( ).	_____ vs. _____.
7.	Go! ( ).	_____ vs. _____.
8.	Give me ( ).	_____ vs. _____.

SUGGESTED PROCEDURE FOR DISCUSSION OF WORKSHEET #6c WITH EXAMPLES.

ON BOARD



Let's look at #3 for a further example.

semantic contrasts: crying/not-crying
Danny/not-Danny

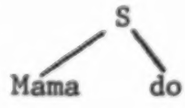
1. What is the semantic contrast requirements for membership in B?

   (semantic contrast crying/not crying)

2. What is the semantic contrast requirement for membership in A?

   (semantic contrast Danny/not Danny)

3. How would we diagram #4 on a tree?

   (

)

4. What is the structural contrast requirement for membership in A?

   (left branch position)

5. What is the structural contrast requirement for membership in B?

   (right branch position)

6. In our two-word utterances could the words be interchanged?

   (no)

Why not?

   (Because requirement for membership in a particular branch is the expression of both semantic contrast and structural contrast.)

NOTE: Continue in a similar fashion for succeding items on worksheet.

7. What two requirements then, have we established for the categorization of words?

   (a. semantic contrast
    b. structural contrast)

8. Are there any other contrasts in the utterances we have just gone over?

(contrasts in sound)

Yes, besides, structural and semantic contrasts, there is a phonological contrast, or a set of phonological contrasts in every utterance. But before we go into that, we had better take a test on what we have already learned.

PHONOLOGICAL CONTRAST

TEACHER REFERENCE
TO HELP EXPLAIN
SEMANTIC AND STRUCTURAL RELATIONSHIPS

(from Thought and Language, by Lev S. Vygotsky, reprinted in Psycholinguistics, by Sol Saporta, Holt & Rinehart (New York: 1961), pp. 514-515.)

The discovery of the fact that meanings of words develop is a most important and fundamental discovery; it alone can save the theory of thinking and speech for a deadly stagnation. The meanings of words are not constant. They change as the child develops; they change also in accordance with the different ways in which thought functions. Word meaning is a dynamic, not a static formation.

If word meaning can change in their inner nature, the relation of thought to speech might change also. To understand the dynamics of this relationship we must supplement the longitudinal approach by the cross-sectional one. It is of the utmost importance to clarify the function of the verbal meaning in the act of thinking. Let us consider the process of verbal thinking from the first dim moment when the thought is born, to the final product of its verbal expression. We now want to show, not how meanings develop in the course of time, but how they function in the actual process of verbal thinking. On the basis of such functional analysis we will be able to show that each stage in the development of the word meaning is marked by its own particular relationship between thinking and speech. Since functional problems are most readily solved by dealing with the highest developed forms of a given activity, we shall put aside, for a while, the problem of development and consider the relationship between thought and word in the consciousness of an adult. The leading idea of the following discussion can be reduced to this formula: The relation of thought to word is first of all not a thing, but a process; it is a proceeding from thought to word and, conversely, from word to thought. In this process the relation between thought and word undergoes changes which might be looked upon as functional development. Thought is not expressed in words, but comes into existence in words. Every thought tends to connect something with something else, to

establish a relationship between two things. Every thought moves, grows and develops, each fulfills a function and solves a given problem. This flow of thought occurs as an inner movement through a series of planes. The first step in the analysis of the relationship between thoughts and words is the investigation of the different phases and planes through which the thought passes before it is embodied in words.

Such an investigation reveals in the first place, two different planes in speech. There is the inner, meaningful semantic aspect of speech and there is the external, acoustic, phonic aspect. These two aspects although forming a true unity, have their own particular laws of movement. The unity of speech is a complex unity, not a homogeneous one. A number of facts in the development of children's speech reveal the existence of independent movement in the phonic and the semantic aspects of speech. We want to point out two of the most important of these facts.

Observing the development of external speech, we notice that the child starts from one word, then connects two or three words. From there he proceeds to simple sentences; still later to complicated ones and then to coherent speech made up of a series of such sentences. Thus, in mastering the external side of speech the child proceeds from the part to the whole. But as regards meaning, the first word of a child is a whole sentence - a one word sentence. On the semantic side of speech the child starts from the whole, from a meaningful complex, and only later begins to master the separate semantic units, the meanings of single words, and to dissect his formerly undifferentiated thought into a series of separate verbal meanings. Thus, in the semantic and in the phonic aspects of speech the development moves in opposite directions. The semantic aspect develops from the whole to the particular, from sentence to word; the external aspect, however, from the particular to the whole--from word to sentence.

This fact in itself is sufficient to show the necessity of distinguishing

between the semantic and vocal aspects of speech. These two do not coincide since they can move in opposite directions, but this does not mean that they are autonomous and independent. On the contrary, the difference is the first stage of a close union. Our example reveals clearly both their inner relationship and their difference. The thought of a child is born as dim and undefined whole--therefore it finds its first expression in a single word. The more differentiated thoughts become, the more the child gives up the use of separate parts of speech and builds up a well constructed whole to well defined parts. Thus, from the very beginning thought and word are not cut after one pattern. In a certain sense there is more difference than similarity in them. Speech in its construction is not a mirror-like reflection of thought. It cannot be put on by thought like a ready-made dress. Thought, as it turns into speech, undergoes numerous changes. It does not simply find its expression in words; it finds its reality and form. The development processes of both the semantic and the phonic aspects of speech form a true union because of their diametrically opposed direction.

The second, no less important fact, refers to a later period of development. Piaget has proved that the child uses subordinate clauses with such conjunctions as "because," "in spite of," "on account of," long before he grasps the meaning which corresponds to these syntactical forms. In the child, grammar precedes logic. Again, as in the previous example, this non-coincidence of grammar and logic does not exclude a union between them, but rather is a necessary condition for this union.

In the functioning of mature thinking the non-coincidence of the semantic and phonetic aspects of speech is even more striking. To show this we must transfer our investigations from the genetic into the functional sphere. The psychologically oriented science of modern linguistics is familiar with numerous examples of non-coincidence. The first place among them must be given to the non-coincidence of grammatical and psychological subject and predicate.

"There is hardly a more inaccurate way," says Vossler, "of interpreting the psychological meaning of any linguistic phenonenom than by reference to grammar. Because of the non-correspondence between the psychological and the grammatical divisions of speech this method must result in misunderstanding. Uhland, the German poet, begins the prologue to the 'Duke Ernst von Schwaben' with the following words: 'Grim scenes will pass before you.' From the point of view of grammatical construction, 'grim scenes' is the subject, 'will pass' is the predicate. But from the psychological point of view, 'will pass' is the subject and 'grim scenes' is the predicate. The poet wanted to say 'what will pass before your eyes is a tragedy.' The listener already had the idea that he would see something happening. That is also what the quoted sentence is about--its psychological subject. The new idea expressed about this subject is the idea of tragedy, which is the psychological predicate."

OPTIONAL

Procedure; Tell these 2 stories and do the following exercise with a picture of an excited dog or puppy.

TEACHER'S NOTE: In the framework of the transformational analysis of language, the initial contrast set up by word order (first-second) is made possible by an experiential recognition of contrast in the realm of experience. Basically, what we are after here is the fact that the child has now differentiated perceptual experience to the point of needing two-word utterances, it is because he has developed a set of semantic contrasts which must operate in a two-word framework. The picture of a dog and any other stories that can be used to show that the semantic contrasts which the child perceives are likely to be very different from our own because they are generalized on such slender and tenuous evidence. The child's perception of particular objects must necessarily be unorganized in the order in which they come to him. But the child has only his own experience to guide him in working this experience into sets of related experience, into relevant experience. While this is very complicated in theory, it is close to experience. If the intuition of various members of the class does not seem to square with the teacher's or with the other member's intuition, this should not be seen as a matter for correction but simply as evidence that the child's semantic categorizations may be different, too, and that it is a difficult thing to change a semantic category after one gets older. The older, the more difficult. If any student is capable and wants to argue that there is no common pattern for most of the speakers of a language, he could be asked to look for evidence to support his conviction.

Further Material To Help Explain Semantic Contrast

A six month old girl used to say "dah" when her father came into the room. "Dah" she would say and point to him. He was very pleased, thinking and bragging to his friends that his little girl was already beginning to talk and that she knew him. She was saying "Daddy" in her own way. Then one day a large wooly dog was let into the living room and the child delightedly pointed to the dog saying, "Dah" in exactly the same way she had pointed to the father. What a blow to Daddy's ego! Had the child regressed? A second look at the situation led the father to speculate that whatever the child had noticed about him was also noticeable about the dog. Maybe it was the fact that both had hair.

This same little girl whenever her father said to her, "Where is the tiger?" would growl in imitation of a tiger, one which perhaps she had seen on TV. Semantically the question "Where is the tiger?" meant to her something like "What sound does the tiger make?" or perhaps "Pretend you are a tiger." The word "tiger" was not differentiated from the rest of the sentence and seemingly the whole concept of tiger was contained in the experience of growling.

Look at his picture of Lassie (or whatever dog or animal you have). What are some two-word descriptive utterances you might make about Lassie?

(wag tail	long fur	shows joy
run joyfully	long ears	shows happiness
jump joyfully	red tongue	has energy
bark joyfully	short tail	etc.
	Lassie jumps	

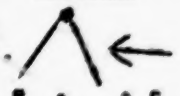
Give students time to list on the board or at their desks.

Notice that some of your statements concern the dog's name, some what he is doing, some what he is feeling. Can you classify them according to these ideas.

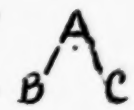
Unit 704
Test

Name _____

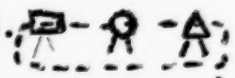
I. DIRECTIONS: Match the picture of diagram in the left-hand column with the appropriate term in the right-hand column and put the correct letter on the blank.
TEACHER: Better than the arrow pointing to the part of the picture in question, might be a color designation.

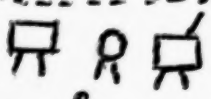
_____ 1. 

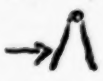
_____ 2.

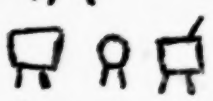
_____ 3. 

_____ 4.

_____ 5. 

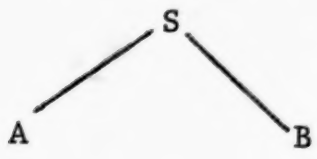
_____ 6. 

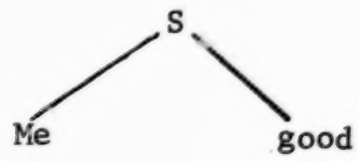
_____ 7. 

_____ 8. 

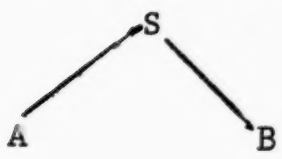
a. tree branch diagram
b. node
c. expansion
d. reduction
e. right branch
f. left branch
g. restriction
h. requirement for membership
i. psycholinguist

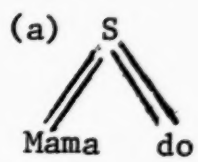
II. 1. Give 2 examples of words that have a semantic contrast.
2. Name the structural contrasts shown by the following trees:

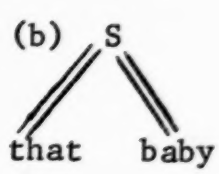


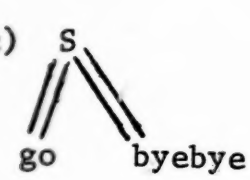


3. State the semantic contrast requirements for membership and the structural contrast requirements for each word in A and B of the following two-word sentences.



(a) 

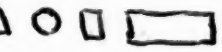
(b) 

(c) 

Unit 704
Test-Page 2

Name _____

	(a)	(b)	(c)
Requirements for A:	(1)		
	(2)		
Requirements for B:	(1)		
	(2)		

4. If are in one category and  are in another category, what was the requirement for membership?

5. If and are in two different categories, what would restrict from either one?

Unit 704
Test key

1. e
2. d
3. a
4. h
5. b
6. g
7. f
8. c

Unit 704
Alternate or Second Test

Name _____

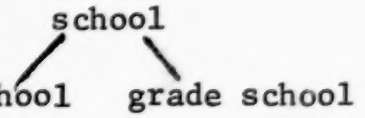
1. Can a pivot word and a word selected from a list be interchanged in an utterance? _____

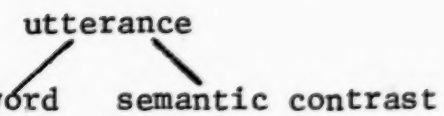
2. If a word appears on either side of a tree, this could mean that what was a pivot word has picked up more _____ contrasts.

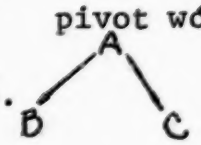
3. To categorize words, there must be at least one and probably two kinds of contrast in the requirements. Most likely the two contrasts used as requirements would be the _____ contrast and the _____ contrast.

Match:

_____1.

_____2. 

_____3. 

_____4. 

_____5.

_____6.

_____7.

_____8.

_____9. ga —— da

tree
node
specific-to-general relationship
right branch
left branch
part-to-whole relationship
psycholinguist
requirement
restriction
phonological contrast
structural contrast

I. Explain how an utterance of two words can have a structural contrast and a semantic contrast.

Unit 704
Alternate Test Answers

1. no

2. semantic

3. semantic structural

Matching:

1. right branch

2. specific-to-general relationship

3. part-to-whole relationship

4. tree

5. requirement

6. restriction

7. node

8. left branch

9. phonological contrast

I. EXAMPLE: An utterance can have a structural and semantic contrast because the words can be on two branches and the two words have different meanings to us from experience.

Before we go into the third kind of contrast which every utterance must have, we will now stop again to get our perspective and to prepare for some of our later remarks. Let's recall that as far as your language experiences are concerned, the two-word sentences are <u>way back</u>. They are so deep in our past that we have a little difficulty even imagining that we ever went through what we can now only observe in younger children. Part of the reason why it is fascinating to observe the way in which little children learn to talk is that we are interested in trying to imagine something we have forgotten so completely but which we know we must have gone through. We sometimes like to hear our relatives tell about the way we said things when we were little. (Sometimes, of course, depending on who is there, we find it very annoying.)

Terms:

DEEP STRUCTURE
BASE PHRASE-MARKER
SURFACE STRUCTURE
DESCRIPTIVE GRAMMARIAN

What makes the difference, though, is that someplace <u>deep</u> in our experience is this first, basic beginning of classification and derivation that <u>marks</u> the beginning of the way in which we arrange words in phrases and sentences. A famous linguist seems to like to play with words a little, for he has called this first derivation the <u>deep structure</u>, and he calls this picture of the deep structure a BASE PHRASE-MARKER.

DISCUSSION

How many different ways have we now studied about expansions in our language system?

IMPORTANT
SUMMARY
&
DOVETAILING

(1. expansions that have <u>order</u> or <u>position</u>

(part-to-whole relationships and structural contrasts.)

2. expansions that do not have order (specific-to-general relationships and semantic contrasts.)

One would say that these processes are the beginning of a complex system of arrangements. The better you know this system of arrangement; the better you know the processes which arrange the deep structure of your language; then the better you understand how you say what you are saying, and perhaps know even how to say what you know better. Remember that in Unit 703 we talked about linguists, some of whom were called grammarians. The grammarian is a person who studies the deep structure of language.

In 703 we saw how the linguist makes statements about language, depending on the kind of facts he is interested in and the purpose he has in using language. A grammarian is usually not interested in using language about the SURFACE STRUCTURE, just in thinking about it and arranging it in meaningful patterns. Then he describes these patterns for us. We, too, have been describing some very basic facts about language--this time about a language most of us don't know too well any more!--child language. Our statements are DESCRIPTIVE. We have been the kind of linguists, therefore, that can be called DESCRIPTIVE GRAMMARIANS. We have been descriptive grammarians because we wanted to find out how our minds work. We started out as psycholinguists, then to do our job we had to be grammarian .

DESCRIPTIVE GRAMMARIAN

But where did we get the knowledge to be descriptive grammarians? Where do we get the feeling that the things we described about child language were really awfully simple-minded? Where do we get the idea that we could say a lot more about the language we know and that we could make all kinds of tree-branch diagrams if we just had the time to work them out? Or at least. where do we get the idea that we can argue a little about the way somebody understands a sentence? Where do we get the knowledge that one selection is all right but another isn't--like we can say, "My kitty is soft and furry", but we can't say "My understandable is soft and furry" or "My tree-branch diagram is talkative."

DEEP GRAMMAR

We get this feeling from the fact that we really know a lot more than the deep structure pictured by the base phrase-marker than we have learned. We really know a whole system of arrangements and derivations, reductions and selections. We may not ever have tried to talk about them before, but we have the feeling that we know our language. We can use it. We can speak. We control the SURFACE STRUCTURE of our language. That feeling is RIGHT and we should never let anyone talk us out of it. While we may never learn to be great DESCRIPTIVE GRAMMARIANS, we have already become great users of something we might call a DEEP GRAMMAR. Maybe we don't want to say we are deep grammarians, because a grammarian strictly speaking, is a linguist. In strict terms, we are only practical linguists, and in this day and age of science and specialization, only people with

TEACHER: After this lecture, drill or review the terms deep and descriptive grammarian. Be sure the students are helped to feel that the mastery of even a part of this deep grammar is a great accomplishment from the point of view of the complexity of the system they use.

special training and the ability to talk and write and describe their work are given the name scientists. But the fact remains that we do have a command of the DEEP STRUCTURE which makes us able to use surface language to pretty good account when we want to and when we feel at ease with our friends. Now who can recall the methods of a psycholinguist?

(He doesn't have any of his own.)

And what are the methods we have to use?

(The methods of the descriptive grammarian)

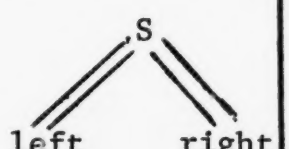
Would the grammarian, do you think, have any diffuculty getting the other linguists to understand what he was saying about the categories he discovers in language?

(Probably all kinds of trouble--judging from the complex nature of the language.)

If the grammarian, then, wishes to be unambiguously understood, he must always be able to define his terms and show exactly what he means. What makes this procedure expecially difficult for the grammarian, more so, perhaps, than for the biologists, botanists, zoologists, etc?

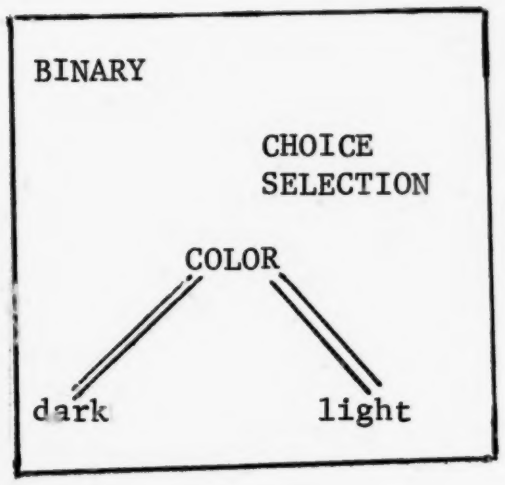
(Words are symbols and this makes understanding them more complex. Also, everybody normal can understand and form infinite numbers of sentences and words and recognizes tens of thousands of each, and produces them himself and feels that he is conversant with their categorizations. But the familiarity of the common man with the units of these other scientists is not so broad or sure of itself.)

BINARY EXPANSION:



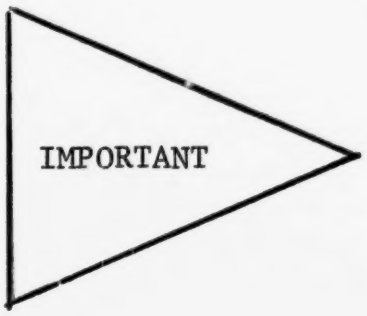
Another way to put the grammarian's dilemma is that there is such a huge selection of examples of whatever category he wants to talk about, that there is difficulty in keeping the category name constant. The problem of

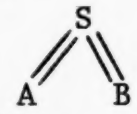
SELECTION VS BINARY CHOICES or EXPANSIONS or DERIVATIONS



very wide selection is opposed in clarity to clear-cut binary choices. Remember that we have touched on this problem before. We have said that tree-branch diagrams will do for a graphic presentation of both specific-to-general relationships and part-to-whole relationships. And, furthermore, when parts to this whole have certain requirements for membership in the form of structural and semantic contrasts. In tree-branch diagramming, this distinction between part-to-whole and specific-to-general is often blurred, even without systems of double and single lines and it makes for difficulty when the grammarian is trying to talk to others. He must say things scientifically, and therefore he must have a way of showing-clearly the difference between the various kinds of rules. Actually it can be done very simply, as mathematicians and logicians all know. One can simply use a different notation known as rewriting. Rewrites are mathematical-looking statements and when they get long are slightly overwhelming. But along with tree-branch diagrams, they help the grammarian very much when he wants to make his statements and categorizations clear.

REWRITES



Here's the way rewrites work. Take the tree 

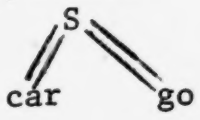
This expansion in a rewrite would look like this:

$S \longrightarrow A + B$

ARROW

The → is called an arrow. The + is called a plus sign.

expansion



I would read the rewrite like this:

S may be written as A plus B.

TEACHERS NOTE: If students seem to have difficulty with the new method, it might be profitable to go through one of the earlier worksheets, picking our the part-to-whole relationships only

Rewrite the following trees and read the statements:

For the indication of specific-to-general relationship selection, the grammarian can use other notation borrowed from logic and mathematics. Does anyone know the manner in which mathematics sometimes indicates a set?

(Braces. If no one knows, they can be told outright.)

Grammarians use braces when a tree-branch diagram indicates a specific-to-general relationship, in other words, a selection of elements that have the same structural contrast. A selection rewrite looks like this:

SELECTION
B
B_1 B_2

$$B \longrightarrow \begin{Bmatrix} B_1 \\ B_2 \end{Bmatrix}$$

This rewrite is read like this:

B may be rewritten as either B_1 or B_2.

IMPORTANT

Often a selection rewrite will contain a long list which could be symbolized as we do in mathematics:

$$\{B_a \ldots\ldots\ldots\ldots\ldots B_n\}$$

ACTIVITY:

Convert to rewrites the trees on Worksheet #1.

CLASSROOM QUIZ

Read and write out in words:

1. $S \longrightarrow A + B$
2. $Ma \longrightarrow Mama + do$
3. $She \longrightarrow \begin{Bmatrix} Nancy \\ Pat \\ Mary \end{Bmatrix}$

TEACHERS NOTE: The symbolic representations NOM and PRED have not been introduced in this unit and should not be introduced formally. By this time students should be able to handle then as some kind of nonsense syllable used for category designation. Meantime, it may be a good idea to give them a visual introduction to two terms that will be defined in the next unit.

4. S ⟶ NOM + PRED

5. NOM ⟶ { he, she, it, we, they }

6. S ⟶ LEFT BRANCH + RIGHT BRANCH

OPTIONAL TIE-UP WITH EARLIER STUDY OF PHONEMES

We have hypothesized that all sentences, no matter how complex, are ultimately derived from a base phrase-marker which we illustrated from some two-word child utterances. Those of you who have younger brothers or sisters, however, know that the very first utterances of children do not consist of words that sound much like our words. Who can suggest some of the very first utterances of a child?

(Ga, da, bai, Mama, Dada, wawa, bird, car)

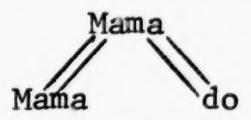
That's correct. The child begins with one syllable, then usually one word. Instead of "Mama do" he starts with, perhaps, /ma/ or "Mama". With this one word utterance he expresses his idea. We are going to refer to this "idea" as THEME and define it as "the field of meaning one wishes to express." The single word, at the point at which a child can make only one word utterances expresses his THEME. What really comes first, do you suppose, THEME or WORD?

(THEME)

Yes, we see now that even the one-word utterance /ma/ has a superordinate which we call THEME.

But the expression of THEME involves something

Diagram:



THEME

To say we learn to pronounce by imitation is different from saying we "learn a language" by imitation. Chomsky points out that a theory of language is necessary to language learning.

This will be hard to get. Leading questions will be needed.

(ADAPTED FROM ROGER BROWN's WORDS AND THINGS, pp. 202, 203)

A German-speaking man asked his young son, "Wo ist das Fenster?" and the young boy pointed at the window. It looked as if he understood the question. The father then asked in French, "Ou est la fenetre?" and the boy pointed at the window again. He also pointed correctly when he was asked the question in English. The father did not believe the boy knew all of these languages. So he asked him, "Wo ist die Tur?" and the boy again pointed at the window.

After this example, students should see that the boy was responding to the intonation contour common to all of the snetences.

entirely different--very obvious, but entirely different--namely pronunciation, or the SURFACE STRUCTURE of our language. We learn to pronounce, or to express ideas, by imitation. What do you think the first thing we imitate might be?

(Intonation.)

Listen carefully to this story of a real experiment. Two linguists were sent identical tapes of sentences read in various tones and pitches. The linguists were asked to map out the pitch levels in relation to the length of time each was held. For example, if the sentence "He had another one?" was read the mapping would look something like

He has another one ?

After a period of forgetting, the same two linguists were presented with a second set of identical tapes. The tapes were of the same sentences, except that they did not have words on them. A screening machine had preserved the pitch but had reduced all the sound to a kind of"ah".

In which of these experiments would you expect the linguists to have results that coincided more closely?

(the "ah" tapes--because listening to the words interferes with listening to pure pitch.)

What do you suppose the baby learns first of all, then?

(Intonation)

Alternate question: Is it possible to say anything, to vocalize anything, without some intonation?

(no; only if we whisper)

Will every sentence have intonation?

(yes)

Then how could we make our original diagram more complete

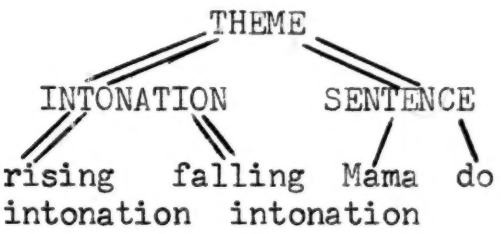
S

Mama do

(We'll have to add INTONATION and THEME)

A more complete tree-branch diagram, then, would look something like this:

Put diagram on Board



Notice that I have put intonation on the left branch. Let's see if you can figure out why. Think for a moment of different kinds of intonation patterns. Take the series of words,

George is going.

Who can give me some examples of different ways we might say these words?

(Bring out
question yes/no
exclamation
command
statement)

Now think of a situation in which you are going to express an idea or THEME. What do you suppose is decided first, INTONATION or pronunciation?

(Intonation - even before you decide which words you are going to use, you "decide" whether you are going to be asking a question, showing surprise, commanding, or making a statement. Then you pronounce the sentence. If you change your mind in the middle of the sentence you usually have to start over.)

It may be helpful to discuss different intonations the students use in "communicating" with dogs and the dogs' reaction. See the discussion in Unit 702.

Distribute Worksheets #7 & #8.

TEACHERS NOTE: You will wish to draw your own summary and conclusions with the class. In doing so, keep the following in mind: The Base Phrase-Marker establishes the basis for a completely specified system of syntactic relations. Because it is an expansion (derivation), its positions (NOM and PRED) are stable. Any TERMINAL, therefore, which is reached by a path emanating from the nodes on the base phrase-marker can be traced back to the original LEFT or RIGHT branch from which it is derived. In traditional terminology, this is the SUBJECT-PREDICATE relationship. The difference is precisely that in this system, all the following derivations are completely specified. Permutations and other operations required to generate natural language from a phrase marker with fixed basic positions are done by transformational rewrites while a "place holder" specifies the context in which the transformation takes place. These matters will be taken up in the following units. The system has, in the beginning, a certain definite ordering because of the strict specifications built into it in view of later requirements. To attempt to teach more than the unit proposes to teach should not be necessary in a sequential program of this specified nature.

Unit 704
Worksheet #7

Name _____

I. Use these words to fill in the blanks in the sentences below:

contrast	signal	position	semantic	positions
structural	language	deep	selection	phonological

a. The first sentences the child speaks are the ones which we say are _____ in his _____ experience.

b. In the child's early language there are probably only two _____.

c. Position is often used to _____semantic contrasts.'

d. Once the position of a key word is established, the child can learn new _____ contrasts.

e. A difference between two sounds can be called a _____contrast.

f. After the position of a key word, or pivot word, is established, the child usually develops a list, or _____, of names and other words to fit in the other _____.

g. Once two positions have been learned, we can say the child has established a s_____ c_____.

II. Categorize the following sets. The three categories are:

1. Phonological Contrasts 2. Structural Contrasts 3. Semantic Contrasts

_____ _____ _____

_____ _____ _____

_____ _____ _____

_____ -_____

_____ _____

_____

a. You naughty - Naughty you

b. Daddy nice - Baby nice

c. Ga - Da

d. Duh - Buh

e. doggie bite - me bite

f. doggie bye-bye - bye-bye doggie

g. Mama - Mama

h. No-no, up - No-no, baby

i. Go byebye - Byebye, Daddy

j. owey - hurt

k. Da (means "give") - Give

l. Beddy-bye - Bye, Betty

Unit 704
Worksheet #7
Answers

I. a. deep language
b. positions
c. signal
d. semantic
e. phonological
f. selection positions
g. structural contrast

II.. 1. c d g j k 2. f i l 3. a b c d e f g h i l

WHEN DISTRIBUTING WORKSHEET #7 caution the students not to use every phonological contrast as a restriction on the category. Limit the phonological contrasts to pairs of obvious contrasts, such as /pot, cot/.

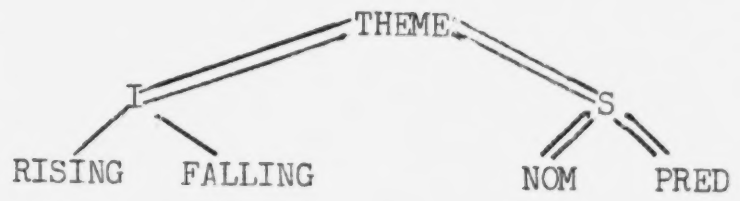
Limit structural contrasts to obvious shifts in position. Accept h, for example, if student can support his choice of it coherently and with reference to the preceding work.

Note that the same phonemes are used in "beddy-bye" and "Bye, Betty," at least in some dialects.

Unit 704
Worksheet #8

Name _____

I. Convert the BASE PHRASE-MARKER below to <u>rewrites</u>. The first one is begun for you.



a. THEME ⟶ I +

b.

c.

II.

a. Compose a rewrite containing <u>two</u> selections for NOM.

NOM ⟶

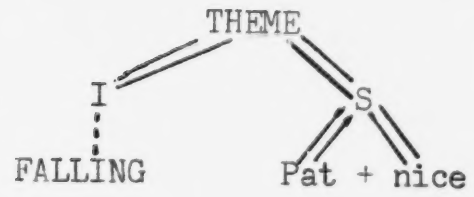
b. Compose a rewrite containing <u>two</u> selections for PRED.

PRED ⟶

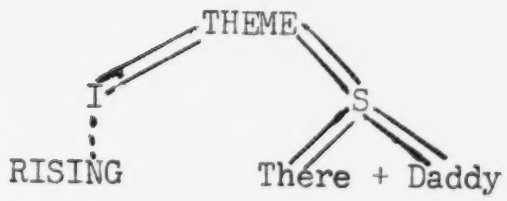
III. Circle the INTONATION selection which you think is likely in each of the utterances below. Then translate the following child utterances so as to define in adult language the THEME or semantic field which is being expressed.

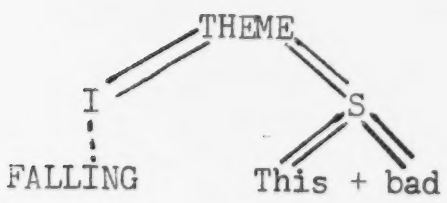
<u>SEMANTIC TRANSLATION OF THEME EXPRESSED</u>

a.

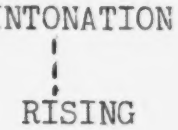


b.





Before you do the test on this section, I will show you one more convention which we will use as grammarians. If we wish to show in a tree-branch diagram that we have made one of two possible selections, we will use a vertical dotted line, like this:



ASSIGNMENT: Direct the students to make a list of statements exclamations, commands, and questions which they hear at home and to bring them to class in the morning. Direct them to practice saying the utterances with a distinctive intonation. Once the words have been written down, they might try to use a question intonation for a statement, for a command, and exclamation, etc.

Notice that we are using all printed capital letters in writing these symbols and node labels. Please continue to do this as it will make your work easier later on. For the moment, I will explain this only by saying that when we write down the words we pronounce we will put them in ordinary writing with capitalization such as is usually to be expected. The nodes and symbols in diagrams and rewrites will all be printed in all-capital letters.

CLASS DISCUSSION OF ASSIGNMENT: Allow sufficient time to consider this discussion a drill in sentence type. Stress the idea that sentences are classified by their intonation as much or more than by their word order.

(AFTER SUFFICIENT DRILL OF SENTENCE TYPE BY INTONATION)

SUMMARY STATEMENT: What our brief look at intonation should tell us is that even though language is a very complex instrument and requires very scientific description by grammarians, we are all very used to listening to it and unterstanding it and using it and we can tell at an instant something about the intentions of those who are trying to communicate with us. Language is very human, and it gives us many human ways to get our ideas across. Especially for little children, but even for you, intonations are very important. We learn a lot from a person's tone of voice. Sometimes we learn so much we

OPTIONAL "FUN" DRILL. Ask the students to bring sentences such as "What are we having for dinner, George?" and to pronounce them with incorrect intonations (What are we having for dinner? George?

don't have to listen to his words. Sometimes, of course, we don't listen when we should because we wrongly think we know all about it already.

But all the intonation in the world won't take us too far past the very first child-language utterances. An infant knows about intonations long before he has learned to talk -- long before he has learned to pronounce.

The next thing, then, is to take a brief look at the way children learn to pronounce the SURFACE STRUCTURE of our language. We will learn a little bit about the relationship of the SURFACE STRUCTURE to the deep structure.

Distribute Worksheet #9.

Unit 704
Worksheet #9

Categorize these words by structural similarity. Then use them all in sentences on your own paper.

here	bored	maid	affect	vane	merry	new
hear	board	made	effect	vein	marry	through
too	which	maze	dye	vain	parry	threw
to	witch	maise	die	their	pair-y	buy
two	our	mined	pried	they're	we'll	by
see	hour	mind	pride	there	wheel	but
sea	are	male	pale	its	weather	butt
bear	bill	mail	pail	it's	whether	disgust
bare	Bill	principle	pain	were	know	discussed
		principal	pane	we're	no	peel
					knew	peal

Categories

STRESS relationship between structural contrasts and perception. If we couldn't hear or see which sounds came first, we would not understand. Perhaps one of the students has had to correct for "backwards" vision and can speak about this experience.

Teacher might want to recall the story of Helen Keller with the students. Many of her problems in learning to speak came from the fact that she could not hear the contrasts in sound.

TEACHERS NOTE: The trick is to teach the students that there is order in the sequence of sound, as well as in words. To avoid the allophonic variations that result when a phoneme is pronounced initially or finally, have the students produce a string of syllables. Use only voiced consonants and preferably those that have some word formed from one or two combinations of the phonemes. After they have pronounced the string until the order gets confused, have them try to say one or another of the words in continuous repetition. The point is that the order of the sounds makes a difference in the meaning, a rather elementary notion which they worked on in phonics classes, but which ought to be regeneralized here as a fact of language fact. A language is a system in which sounds and words are meaningful in a certain order.

FOLLOW THE SAME PROCEDURE FOR: BOARD

BOARD

Now, as we said a while back, if a linguist is someone who can use his tongue, none of us, I'm afraid would dare to say we don't do it. And this brings us to the point which we have been working up to - that even though we have positions and semantic contrasts, we can't have language unless we PRONOUNCE. We've got to SAY it. Since our perception must be a perception of contrasts, everything that we say, then, everything that we pronounce, will have to have contrasts. At least there will be a contrast between noise and silence. Let's see if we can discover some others. Repeat the following string of syllables after me:

a m a m a m a m a m a

(do not write on the board)

(Continue, increasing the speed)

Do you seem to hear any combinations of sounds that are familiar?

(Ah'm Ma, Mom, Mama, Mom a) BOARD

Are all of these combinations the same? Do they mean the same thing to you?

(no)

What makes the difference?

(The positions of the consonant "m" and the vowel "a".)

a b a b a b a b a b a

(a ba, abba (Greek for "father") Bob, Bob a, a Bob)

a n a n a n a n a n a

(Anna, on a nah!)

a l a l a l a l a l a

(all, la, loll, ah-la!)

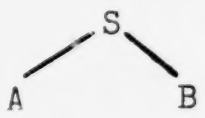
OPTIONAL PROCEDURE TO REINFORCE GENERALIZATION:
Have the students make tree-branch diagrams of the words and syllables the students perceived in the preceding oral exercise. N.B. "Mom" shows that phonological contrasts on this level are not confined to binary relationships. For this reason Morris Halle and his associates are trying to reduce phonological contrasts to a plus/minus system of distinctive features, as their forthcoming book, The Sound Pattern of English is supposed to elucidate.

Is there a semantic contrast between all and la?
(yes)

What causes this contrast?

(The position of the sounds.)

Contrasts in meaning (semantic contrasts), then, are very much related to the structural contrasts. In other words, the basic left-right branch structural contrasts are established as soon as the child makes one-word utterances which contain two sounds. So that, structural, semantic, and phonological contrasts all exist as overlays in the base phrase-marker:



If desirable, the students will probably enjoy a little further work with phonological contrasts.

OPTIONAL ACTIVITY:
Read a short poem in an unfamiliar language and have the students attempt to write it down phonetically. Then let the students compare.

Suggested Activity:

Humor is sometimes based on an understanding of phonological contrasts. Have students read "A Lay of Ancient Rome" by Thomas Ybarra. (Adventures in Reading, ed. Sister Anna Mircedes, et al., Cardinal Newman Edition, Harcourt, Brace and Co., 1954.)

Phonological Game. "Phonograms" are like anagrams except that phonemes rather than graphemes are rearranged to make new words:

Leaf ⟶ feet or feat
aid ⟶ day

Unit 704
Worksheet # 10
Questions:

I. Re-read the selection*and answer as many questions as your teacher directs.

1. List the un-English words in the above selections.

2. List and respell the words whose phonological features differ from English expectations.

3. List the Latin words that sound like or partly like English words with very different meanings. Give the semantic equivalent for the Latin words.

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*Thomas Ybarra. "A Lay of Ancient Rome" (Adventures in Reading, ed. Sister Anna Mircedes, et al., Cardinal Newman Edition, Harcourt, Brace and Co., 1954.)

Now for the last activity of this unit you will have a chance to test your understanding of how these rules and restrictions work. In this exercise you will learn perhaps the most important thing about the whole notion of deep grammar. You will learn that deep grammar is essentially dynamic. It moves. It makes new structures where there weren't any before. Deep grammar is what makes it possible for you to keep on saying sentences that no one ever heard before or said before. You can make up new things to say. You can even make up new words, using rules that are in the deep markers of your own system--though these markers may not be entirely like anyone elses. Still, the little differences don't usually make enough trouble to keep speakers of the same language from understanding each other. In these exercises you will have a chance then to make some sentences in a new language. It is a very simple language, probably one that was never spoken. Still it resembles, perhaps, a language you have heard your younger brothers and sisters use, or perhaps the language that you yourself speak--since your younger brothers and sisters are trying to imitate the language you speak. Remember, the rules of this language are a descriptive grammar, not a deep grammar. But like a deep grammar, they are rules which make it possible for us to build the sentences that could be spoken by the person who knows the deep grammar this descriptive grammar is making statements about.

Distribute Optional Culminating Exercise #1.

Unit 704
OPTIONAL CULMINATING EXERCISE #1

PHRASE - STRUCTURE RULES

THEME ⟶ S + I

S ⟶ Nom. + Pred.

Nom ⟶ Name

Name ⟶ [g, d] + [a, æ]

Pred ⟶ [d, g] + [u]
[d] + [o]

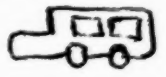
I ⟶ falling$_1$ (⌐¬_)
falling$_2$ (⌐¬)
rising (_⌐)

Torvic's Language:

LEXICON

ga =

g = cap

da = toy 

d = daddy

du = do

gu = (gooey)

do = go

falling$_1$ - happy
falling$_2$ - command
rising - question

Unit 704
OPTIONAL CULMINATING EXERCISE #1 (page 2)

EXERCISE I

Formulate all the possible grammatical sentences in the sets:

ga		du
gæ		gu
da	+	do
dæ		

EXERCISE II

Pronounce all the sentences in I with falling intonation (statement). Translate according to the lexicon above.

EXERCISE III

a) Rewrite I → { rising, falling, constant } with 2 stresses

Lexicon
rising = question
falling$_1$ = contentment, statement
falling$_2$ = command

b) Give semantic equivalences to all 36 possible sentences.

EXERCISE IV

Assume that you know this child and that you observe that he never says some of these sentences. Choose 3-5 utterances which he "does not say" and formulate the restrictions which keep them from appearing.

Example A: (* = impossible)

*falling$_1$	+	dæ	gu	gu refers only to things that do not do the will of the speaker and daddy always does what Torvic wants. Therefore, the experiences never occurs for Torvic to express.
*falling2	+	dæ	gu	
*rising	+	dæ	gu	

Example B:

* {dæ, gæ}	+	du	front vowel cannot oocur before a back vowel preceded by a front consonant.

Unit 704
Answers for OCE #1

Sample translation (semantic approximation)

ga go cup do = give me the cup

gɔɛ do cap go = I don't want the cup. Take it away.

dɔɛ gu - daddy don't like = Daddy is sad
I don't like Daddy.

Utterances (in any order)

ga	du
gɔɛ	du
dɔɛ	du
da	du
ga	gu
gɔɛ	gu
da	gu
dɔɛ	gu
ga	do
gɔɛ	do
da	do
dɔɛ	do

Unit 704

OPTIONAL CULMINATING EXERCISE #2

SAMPLE VOCABULARY TEST INCORPORATING
GRAMMATICAL CONCEPTS FROM UNIT 704

READ THE LIST OF WORDS CAREFULLY. THEN FOLLOW ALL THE DIRECTIONS THAT FOLLOW.

insistence	capabilities	dormitory	jog	apparently	apprehensive
dauntless	ensign	tousled	inviolate	diminish	commandment
palisades	evacuate	dispirited	drought	multinational	repose
pert	fervent	assume	prejudicial	refectory	endow
self-evident	afterthought	oppressive	poring	obvious	timid

1. Write two words that have the semantic similarity of the meaning "place".

2. Write a word that is structurally similar to "fervently".

3. Write a word that is structurally similar to "studying". Then change three other words from the list to make them also structurally similar to "studying".

4. Write 2 words that have a directly opposite semantic contrast to "dauntless".

5. Write a word that is semantically similar to "walk jerkily".

6. Write 3 words that will undergo the following rule: NOUN + PLURAL_____NOUN-s
Ex: capacity + PLURAL _____ capacities

*7. Write as many words as you can find that will fit in the frame: I don't think we can _____it.

8. Write as many words as you can find that will fit in the frame: That was a _____ idea.

9. Write as many words as you can find that will fit in the frame: The person had a very _____ manner (or attitude).

10. Write as many words as you can find that will fit in the frame: The person looked _____.

11. Write as many words as you can find that will fit in the frame: He didn't give it an _____.

12. Write all the words that will undergo this rule: VERB + PAST_____PAST TENSE

* The word "frame" has not been used specifically in this unit. It corresponds to "position" and to "structural similarity."

Unit 704
ANSWERS FOR OCE #3 VOCABULARY TEST

READ THE LIST OF WORDS CAREFULLY. THEN FOLLOW ALL THE DIRECTIONS THAT FOLLOW.

insistence	capabilities	dormitory	jog	apparently	apprehensive
dauntless	ensign	tousled	inviolate	diminish	multinational
palisades	evacuate	dispirited	drought	commandment	repose
pert	fervent	assume	prejudicial	refectory	endow
self-evident	afterthought	oppressive	poring	obvious	timid

1. Write two words that have the semantic similarity of the meaning "place". (dormitory, refectory)

2. Write a word that is structurally similar to "fervently". (apparently)

3. Write a word that is structurally similar to "studying". Then change three other words from the list to make then also structurally similar to "studying". (poring, evacuating, assuming, fogging, diminishing, reposing, endowing)

4. Write 2 words that have a directly opposite semantic contrast to "dauntless". (timid, apprehensive)

5. Write a word that is semantically similar to "walk jerkily". (jog)

6. Write 3 words that will undergo the following rule: NOUN + PLURAL ——— NOUN-s
Ex. capacity + PLURAL ——————— capacities
(1. ensign + PLURAL ——————— ENSIGNS drought multinational)
(2. afterthought + PLURAL ——————— AFTERTHOUGHTS commandment)
(3. dormitory + PLURAL ——————— DORMITORIES refectory)

7. Write as many words as you can find that will fit in the frame: I don't think we can _____ it.
(evacuate, assume, diminish, endow)

8. Write as many words as you can find that will fit in the frame: That was a _____ idea.
(dauntless, pert, self-evident, fervent, dispirited)

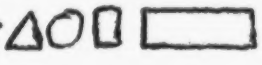
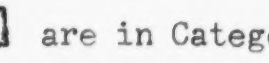
9. Write as many words as you can find that will fit in the frame: The person had a very _____ manner (or attitude).
(dauntless, pert, fervent, dispirited, oppressive, prejudiced, obvious, apprehensive, timid)

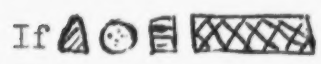
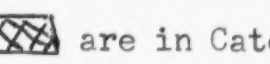
10. Write as many words as you can find that will fit in the frame: The person looked _____.
(tousled, dispirited, pert, dauntless, fervent, inviolate, apprehensive, timid)

11. Write as many words as you can find that will fit in the frame: He didn't give it an _____.
(afterthought)

12. Write all the words that will undergo this rule: VERB + PAST ——— PAST TENSE
(evacuate, assume, jog, pore, diminish, repose, endow)

Unit 704
OPTIONAL CULMINATING EXERCISE #4

1. If  are in Category A and  are in Category B, what is the requirement for membership in Category A? _____.

2. If  are in Category A and  are in Category B, what is the restriction for Category B._____

_____.

3. If <u>too</u>, <u>two</u>, <u>to</u> are in Category A and <u>bare</u>, <u>bear</u> are in Category B, what is the requirement common to each category? _____.

4. If <u>see</u>, <u>hear</u> are in Category A, but <u>sea</u>, <u>here</u>, are <u>not</u> in the same category, what are the restrictions that keep <u>sea</u> and <u>here</u> from being in Category A?
   Circle two: structural contrast semantic contrast phonological contrast

5. If <u>see</u>, <u>hear</u> are in Category A and <u>sea</u>, <u>ocean</u> are in Category B, what are the requirements for membership in Categories A and B?
   Circle two: structural similarity semantic similarity phonological similarity

6. Here are five categories of words:

sterilize	pajamas	also	princely	on
examine	ruler	maybe	comparable	through
frighten	kindness	surely	somewhat	for
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Here are 10 words which fit in the empty spaces in the categories above. Write them in the correct blanks. You will need to consider structural similarity only.

to	hear
too	in
two	inn
threw	here
four	fore

Unit 704
SAMPLE ANSWERS FOR OCE #4

1. (large geometric figures)

2. (designed figures)

3. (phonological similarity)

4. (structural contrast, semantic contrast)

5. (structural similarity, semantic similarity)

6.

sterilize	pajamas	also	princely	or
examine	ruler	maybe	comparable	through
frighten	kindness	surely	somewhat	for
hear	inn	too	two	in
threw	fore	here	four	to

SYNTACTIC RELATIONSHIPS

UNIT 705

INTRODUCTORY MATERIALS

Unit 705 is a structured inquiry unit. It is structured in that the corpus of "facts" is given and is selective. It is an inquiry unit in that the students are to be allowed to form their own conclusions regarding the significance of the language facts they work with. The teacher should allow as much speculation about the meaning of the various sortings as the class will take without losing interest.

The method of inquiry approximates a computerized card-sorting technique. The sorting is done by hand as a manipulating experience for the purpose of teaching two basic principles of classification: that classes are formed for the purpose of passing on knowledge; that classes are formed by giving attention, on the one hand, to certain specifications and by ignoring, on the other hand, certain other characteristics.

The unit ought to be approached with the understanding that there may not be any definite answers. Class names ought to be understood as arbitrary. But the process of arriving at classifications ought to be seen as proceeding by ordered steps, which steps are determined by the unfolding significance of the findings and the intelligent guesses and intuition of the researcher. The sortings and classifications ought to be evaluated by a consideration of what the speaker knows about his language and the way he uses it.

Because where Unit 704 left off, this unit leans heavily on the categorizing skills that were begun in it and in Units 701 and 702.

The students are given a series of sentences and told to classify the sentences according to one specification or another, such as "words fitting into the frame: 's_____ or the frame: the_____; or the frame: was_____-ed. They are asked to draw conclusions from the results of the classifications and to devise class names for their findings.

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Important concepts to be developed are:

-that classification (the naming of concepts) is an activity in abstraction:

--that each person categorized according to specifications that seem pertinent to him; therefore, there are, theoretically, as many different classifications of objects as there are people;

--that to be useful, specifications for classification must be obvious enough and significant enough for a large number of people to learn to classify by them;

--that the significance of a specification can be judged by (1) the effect that it has on the whole system and (2) its utility in promoting human ends;

--that the activity of classifying language elements is humanly significant because (1) language is of human interest in itself, being, among other things, what distinguises our activity from that of other animals, (2) classification of language elements sometimes helps a person develop a specific language act with a rhetorical purpose (See Unit 703) and (3) that classification of language elements is traditionally a mark of education and for those who are interested in being known as educated, conversancy with a metaloaguage (grammarians' jargon) is essential to belonging to the group;

--that the "parts of speech" are classes of words sorted out by consistently noting certain operational characteristics; since

> the number of nouns, verbs, adjectives, and adverbs is very large and theoretically infinite, the characteristics used in sorting are very obvious; otherwise children would never be able to learn language.

In working with abstraction, the teacher ought to be aware that simply because the child mind is immature, it will not easily achieve high-level abstraction with any large degree of consistency. Language theory, moreover, requires higher level abstraction than even mathematics, and while that is not to say that it can't be taught, it does suggest that the successive maturations through which the child's mind will go may have more to do with what he learns than any specific "rule" or "classification" or "generalization" he may arrive at. Rather, the purer and more uncluttered the <u>method</u> appears to him, the better he should be able to apply it as time goes on, no matter what his referents of his study, whether linguistic, historical, mathematical, or artistic.

A word about the grammarian's jargon may also be in order. In spite of the traditional value of knowing the jargon, this unit might conceivably be taught without any reference whatsoever to such terms as predicate nominative, direct object, adjectives, and the like. The sorting should, if possible, be done without using the crutch of terms which students may have erroneous ideas about. The jargon should seem a necessary outgrowth of the need to communicate <u>about</u> language when persons are trying to achieve some rhetorical purpose, such as the writing of a speech or a radio script.

If attention is given to such obvious operations as the shift from "courageous" in "He acts courageously" to "courageously" in "He speaks courageously" or to the fact that certain words will fit into the frame: "The

_____thing is very _____" (fine, beautiful, cacophonous, but not this or speech), they may come to understand that classification of these elements is dependent upon factors in the sentences themselves in some cases and upon qualities inherent in the words themselves in other cases.

Thus, the unit title "Syntactic Structures" comes to be somewhat narrowed to mean only those structures formed by "phrase-structure rules" (See Unit 704) and not those formed by transformational rules (See Units 804 and 805). Prepositions, determiners, and auxiliaries are assumed here and discussed more at length in the later units. The intention is to get the students aware of these classes of words as "structure words," as words which are determined by listing rather than by operational functions of other elements in the sentences (As nouns are determined by the function of determiners; they are "made" by placing determiners in front of them; consider "run" or "break" which can be either nouns or verbs, depending on whether they are preceded by determiners or auxiliaries.)

Probably the more rapidly this unit is gone through, the more thoroughly it will achieve what it is intended to achieve--the teaching of the process of classification. The teacher should keep in mind, therefore, that the teaching of classification is more important than the naming of the classes. If, however, students need the security of naming, more attention could be given the terms of traditional grammar, or the unit could be followed by a unit in traditional grammar to show what clarifications the work of Unit 705 has achieved and to allow students to apply their knowledge in a different context.